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Y4.B22/1:96-69

# DEFENSE PRODUCTION ACT AMENDMENTS OF THE ENERGY SECURITY ACT OF 1980

Y4.B22/1:
96-69
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96-2

## HEARINGS

BEFORE THE

SUBCOMMITTEE ON ECONOMIC STABILIZATION

OF THE

COMMITTEE ON
BANKING, FINANCE AND URBAN AFFAIRS
HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

SECOND SESSION

JULY 30; AND OCTOBER 1, 1980

**Serial No. 96–69**

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# DEFENSE PRODUCTION ACT AMENDMENTS OF THE ENERGY SECURITY ACT OF 1980

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WEDNESDAY, JULY 30, 1980

House of Representatives,
Subcommittee on Economic Stabilization,
Committee on Banking, Finance and Urban Affairs,
*Washington, D.C.*

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2128, Rayburn House Office Building, Hon. William S. Moorhead (chairman of the subcommittee) presiding.

Present: Representatives Moorhead, Blanchard, LaFalce, Evans, McKinney, Green, Hinson, Paul, and Porter.

Chairman Moorhead. The Subcommittee on Economic Stabilization will please come to order.

The normal practice of this subcommittee is for members to be recognized for opening statements at the beginning of the hearing. For reasons which will become somewhat apparent, I will defer my opening statement until the conclusion of the testimony. I would hope other members would do the same, although, of course, they are entitled to recognition any time they seek it.

At this point, however, I would like to ask unanimous consent to insert into the record a letter to me from the chairman of the Armed Services Committee expressing his support of the synthetic fuels program on a high priority basis, stating that it is an excellent starting point to expedite action.

I put this in the record primarily to emphasize that the Congress and the Armed Services Committee are strongly in favor of prompt action.

Without objection, it will be made part of the record at the appropriate place.

[The referred-to letter follows:]

2

CHARLES E. BENNETT, FLA.
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COMMITTEE ON ARMED SERVICES
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LARRY J. HOPKINS, KY.

JOHN J. FORD, STAFF DIRECTOR

July 29, 1980

The Honorable William S. Moorhead
Chairman
Subcommittee on Economic Stabilization
Committee on Banking, Finance, and Urban Affairs
Washington, D. C. 20515

Dear Bill:

Your planned hearing tomorrow on the "Energy Security Act" amendment to the Defense Production Act to promote synthetic fuels production has just come to my attention.

I want to assure you of my support to proceed with the synthetic fuels program on a high priority basis. I believe your announced intention to receive a report from the Administration on what has been and is being done is an excellent starting point to expedite action.

Sincerely,

Melvin Price
Chairman

Chairman MOORHEAD. The subcommittee is delighted to have with us Dr. Ruth M. Davis, Assistant Secretary for Resource Applications in the Department of Energy.

The members of the subcommittee will remember the tremendous assistance that we got from Dr. Davis in her previous incarnation in the Defense Department situation.

We also have with us Dr. Arden L. Bement, Deputy Under Secretary for Research and Advanced Technology of the Department of Defense.

I want to express the appreciation that the subcommittee has had for the cooperation from the Defense Department.

Before you proceed, I think the way we will proceed is to have both of you present your testimony. Before we do so, for the record, will you introduce the associates that you have with you, starting with you, Dr. Davis?

Dr. DAVIS. I have with me Lt. Comdr. Larry Lukens, who is the Deputy Assistant Secretary in my office responsible for the program which I will be discussing.

Dr. BEMENT. I have with me today George Marienthal, Deputy Assistant Secretary of Defense for Energy, Environment and Safety and also Richard E. Donnelly, the Deputy Director for Production Resources.

Chairman MOORHEAD. Would you like to have him join you at the table?

Dr. BEMENT. I think he can come forward as required.

Chairman MOORHEAD. Dr. Davis, will you then proceed?

## STATEMENT OF DR. RUTH M. DAVIS, ASSISTANT SECRETARY FOR RESOURCE APPLICATIONS, DEPARTMENT OF ENERGY, ACCOMPANIED BY LT. COMDR. LARRY A. LUKENS, DEPUTY ASSISTANT SECRETARY FOR INDUSTRIAL PLANNING AND DEVELOPMENT, DEPARTMENT OF ENERGY

Dr. DAVIS. Thank you, Mr. Chairman. I have a statement which I would like to have inserted in the record.

Chairman MOORHEAD. Without objection, it will be made part of the record.

Dr. DAVIS. I would like to make a few summary comments taken from that statement and to say first of all that I am very pleased to have what turns out to be the first opportunity to discuss the actions that the Department of Energy is taking under the Energy Security Act or what we would call the alternative fuels production responsibilities.

In accordance with the request of your letter, I am going to concentrate on those responsibilities of the Department of Energy that are aimed at implementing the Defense Production Act authority described in title I, part (a) of the Energy Security Act.

I am going to do this, however, in the broader context of all of the transitional alternative fuels activities that have been assigned to the Department of Energy.

I would highlight first of all the experience and the activities that the Department of Energy has undertaken to date in the alternative fuels or the synthetic fuels production area.

Our responsibilities for the transitional period actually began with the signing of Public Law 96-126 on November 27, 1979. Since that time, and in accordance with the schedule prescribed by Congress, we have completed two significant actions:

First, we have solicited and evaluated 971 proposals for feasibility studies and cooperative agreements and selected from those 110 alternative fuel projects that are proposed for awards totaling some $200 million.

Second, we have continued the support for the first domestic commercial scale plant to produce high Btu gas from coal. We have done this through a $22 million cooperative agreement and a conditional commitment for a $250 million loan guarantee to the Great Plains gasification project.

I think it is highly significant that Congress recognize the importance of continuing this type of interim DOE activity without interruption, and it did so through Public Law 96-304, the fiscal year 1980 supplemental appropriation.

In that act, Congress and the managers authorized $3 billion to be made immediately available to carry out the interim Defense Production Act activities as authorized by S. 932.

That funding, in conjunction with the $2 billion previously provided by Congress, allows a large aggressive program in and by the Department of Energy.

Third, the Congress appropriated $100 million for feasibility studies and provided an additional $200 million for cooperative agreements based on the success of the first activity in these two areas that we had just concluded.

In this way the Defense Production Act is, under S. 932, and with the $3 billion appropriated, a key part of this administration's overall alternative fuels production program.

From my point of view, the DPA authorities are intended and will be used to assist the development of alternative fuels for national defense applications.

We will provide the highest priority and the single priority under the interim DPA for such national defense applications which will be implemented through the early development of a domestic synthetic fuel capacity in this country to meet the requirements of S. 932.

In terms of the way we are managing this activity in DOE, let me simply say on July 8 of this year, the Secretary of Energy directed the Acting Under Secretary to establish a synthetic fuel transition office. That office will integrate and focus the resources of the Department as a whole on its synthetic fuels production transition responsibilities.

I have been assigned the lead program execution function responsibility within the Department of Energy, and I think that is entirely appropriate because it is my organization that is production-oriented as opposed to research and development-oriented in the Department of Energy.

With this assignment of lead program execution responsibilities, the interim DPA financial assistance programs will be managed as an integral part of DOE's overall responsibilities.

However, I will assure you that the DPA programs will maintain their specific identity during the transition period and that their purpose and nature, which is to provide for national defense applications, will be the sole purpose for which we will be using them in the Department of Energy.

Another very important and principal objective that we have in this transition period is to assure a smooth, productive, and expeditious transfer of projects and activities to the Synthetic Fuel Corporation.

Let me now make a few comments on a DOE/DOD interaction. I will keep them to a minimum. I know Dr. Bement will be commenting on them too.

From DOE's perspective the involvement of the Department of Defense in this activity is crucial. To clarify the respective responsibilities of DOE and DOD, a draft Executive order outlining the respective roles of our two agencies has been drafted by and informally concurred in by both DOE and DOD. It has been submitted to the Office of Management and Budget for clearance.

The Executive order is being readied now for transmission to the President for his signature.

In the Department of Energy we expect to have a joint process with DOD participation in all of the numerous activities.

The planning and discussions for this are already under way from the top level of the Department and between, specifically, my office and the office of the Under Secretary of DOE, and between Dr. Arden Bement's office and the Office of the Deputy Under Secretary for Acquisition Policy and the Deputy Assistant Secretary for Energy, Environment and Safety in DOD.

We do expect the Defense Fuel Supply Center to assume the functions of guaranteed purchaser of the types and quantities of synthetic fuels as specified by DOD. In this instance, we expect the DFSC, as guaranteed purchaser, to arrange for receipt, use, and disposition of all the synthetic fuels that are acquired through the financial assistance programs that we will be initiating in this interim period.

Chairman **Moorhead**. Dr. Davis, we have a vote on. I think this is an appropriate time to take a brief recess. Let's go over and vote and return as quickly as possible.

My apologies. This is something over which we have no control. The subcommittee is in recess for a few minutes.

[Recess taken.]

Chairman **Moorhead**. The Subcommittee on Economic Stabilization will resume, hearing from Dr. Davis.

Dr. **Davis**. Thank you. I have just a few more comments to make, Mr. Chairman.

I would first point out that we do have the interim DPA process for drafting solicitations, issuing them, and making the selections in terms of the loan guarantees and the purchase commitments authorized under the interim DPA on a fast track.

We will be issuing this draft solicitation for public comment in early August. We do plan to issue solicitations in early September and, keeping in mind the requirements of industry for a proper response, we would have those responses in and evaluation beginning in December of this year.

Let me highlight now what I think is the fact that the progress in the last 15 months toward developing domestic production capabilities for synthetic fuels which have national defense applications has been dramatic.

It was indeed March 13 of 1979 when I first testified to this subcommittee on the urgency behind developing such a domestic synfuel capacity.

This subcommittee took the lead. It took its own embryonic idea of utilizing the DPA to assist in this task. I think it carried it to the successful stage of implementation exemplified by the hearing you are having today and the passage of the Energy Security Act.

The characteristic which distinguishes the synthetic fuel production activities which can be financed under the interim DPA authority is their focused dedication to national defense.

This points to the primary emphasis being placed on liquid fuels derived from synthetic fuel stocks such as shale oil, coal liquids, and possibly coal/oil mixtures.

The role DOE plays here as a purchaser of synthetic fuels can benefit the country as a whole inasmuch as large commercial segments such as commercial aviation, shipping and the like could be consumers of these products.

The added benefit of this activity will be to put into place a commercially representative synthetic fuel industry capable of serving a broad spectrum of consumer needs.

On the other hand, DOD can expect to benefit from the development of a synthetic fuels industry whose economics is determined by a large competitive marketplace compared to one whose survival is tied to a single public customer, namely, DOD.

The management by the Department of Energy of the transitional synthetic fuel production funds appropriated by Congress allows the Government to take advantage in this kind of an integrated way of the innovative market development capability in the private sector.

These capabilities and the use of the marketplace of the private sector is the most efficient way to develop this much needed domestic diversified alternative energy supply capacity.

The money we have, $5 billion, simultaneously allows industry to take advantage of the best combination of financial assistance packages available by the entire Government, either under the interim DPA authority or under the Nonnuclear R. & D. Act.

Let me conclude by saying that both the President and the Secretary of Energy have emphasized repeatedly the importance and urgency of building a diversified domestic energy supply capacity that will free the country from crippling dependency on uncontrolled foreign sources of energy.

The Secretary of Energy has also placed a special emphasis both when he was Deputy Secretary of Defense and now as Secretary of Energy on taking all possible actions to meet the energy needs of national defense.

This alternative fuel production responsibility that the Congress has assigned to him during the transition period until the SFC becomes operational has his direct attention and his direct support.

Thank you very much, Mr. Chairman.

[Dr. Davis' prepared statement on behalf of the Department of Energy follows:]

STATEMENT OF
RUTH M. DAVIS
ASSISTANT SECRETARY
RESOURCE APPLICATIONS
U.S. DEPARTMENT OF ENERGY

BEFORE THE

SUBCOMMITTEE ON ECONOMIC STABILIZATION
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES

JULY 30, 1980

Mr. Chairman and Members of the Subcommittee: I am pleased to have this first opportunity to discuss the actions the Department of Energy is taking to implement its alternative fuels production program authorized in the Energy Security Act (P.L. 96-294), for which funds have been appropriated to the Department of Energy under the heading of Alternative Fuels Production in the FY 1980 Supplemental Appropriations and Rescission Act (P.L. 96-304). In accordance with the request in your letter of July 8, 1980, I shall concentrate on our plans to implement Section 305 of the Defense Production Act (DPA) authority described in Title I, Part A of the Energy Security Act of 1980. I will do this, however, in the broader context of all the transitional alternative fuels production activities assigned to the Department of Energy. I am accompanied today by Lieutenant Commander Larry Lukens, Deputy Assistant Secretary for Industrial Planning and Development.

## I. INTERIM DPA AUTHORITY IN THE CONTEXT OF DOE'S TRANSITIONAL ALTERNATIVE FUELS PRODUCTION ACTIVITIES

## A. The Intent of the FY 1980 Supplemental (P.L. 96-304) to DOE for Alternative Fuels Production

DOE's primary synthetic fuels production activities during the transitional period until June 30, 1981, began with the signing of P.L. 96-126 on November 27, 1979. Under the authority of P.L. 96-126, DOE has completed two significant actions, meeting the schedule set by the Congress in so doing: namely

1. We have solicited and evaluated 971 proposals for alternative fuels feasibility studies and cooperative agreements, selecting 110 proposed alternative fuels projects for awards totaling approximately $200 million, and

2. We have continued support for the first domestic commercial-scale plant to produce high-BTU gas from coal, through a $22 million cooperative agreement and a conditional commitment to a $250 million loan guarantee to the Great Plains Gasification Project, headed by the American National Resources Corporation.

This initial activity heralds significant progress in the Administration's program toward the goal of stimulating domestic, commercial production of synthetic fuels equivalent to two million barrels of oil daily by 1992. Congress recognized the importance of continuing this interim DOE activity without interruption. In the FY 1980 Supplemental Appropriation (P.L. 96-304), the Statement of Managers states that the interim authorities allow "a large, aggressive program" in DOE. The conferees stated:

1. "$3 billion is immediately available to carry out interim Defense Production Act activities as authorized by S.932. This interim activity along with the $2 billion previously provided in P.L. 96-126 . . . allows a large aggressive program. The managers expect the Department to issue solicitations as quickly as possible to use these funds and maintain current momentum in the program."

2. "$100 million is provided for feasibility studies . . . to continue programs begun in the FY 1980 appropriation."

3. "$200 million is provided for cooperative agreements . . . to continue programs begun in the FY 1980 appropriation."

The Defense Production Act (DPA) program ($3 billion) is thus a key part of an overall interim alternative fuels production program which totals $5.3 billion. The DPA authority of Section 305 will lapse when the President determines that the Synthetic Fuels Corporation is fully operational. At that time, the DPA's projects and associated resources will be eligible for transfer to the Corporation. The remainder of the interim program funds will be transferred to the Corporation on June 30, 1981.

### B. Comments on the Interim DPA Activities of Title I, Part A, of the Energy Security Act

The DPA authorities are intended to assist development of alternative fuels for national defense purposes. Perhaps of equal importance are the advantages which should accrue both to industry and to the DOD of having synthetic fuels for national defense applications included in the early development of a total domestic synthetic fuel capacity/industry.

This beneficial coupling will be a keystone of DOE's transitional activities.

### C. DOE's Management of its Assigned Transitional Alternative Fuels Production Activities

The Secretary of Energy, on July 8, 1980, directed the Acting Under Secretary to establish a Synthetic Fuels Transition Office to integrate and focus the resources of the DOE as a whole on its synthetic fuels production transition responsibilities. The office, although small, and temporary, is already acting aggressively to coordinate for the Acting Under Secretary the DOE transition program both internally and externally.

Lead program execution functions for DOE's transitional alternative fuels production activities will remain the responsibility of the Assistant Secretary for Resource Applications. In carrying out this responsibility, Resource Applications will continue to involve Procurement, General Counsel, the Office of Environment, and other DOE offices, in the evaluation and review activities, and final selections for awards. In addition, participants from DOD will be involved throughout the solicitation review and selection process. The tentative schedule of activities and the current program execution status will be discussed later in this Statement.

It is important to emphasize that the interim DPA financial assistance programs will be managed as an integral component of DOE's overall program execution responsibilities. Nevertheless, because of their distinct purpose and nature, the DPA programs will maintain specific identity during the transition period. The purpose and nature of the interim DPA financial programs will be exemplified by the high priority they give to liquid fuels for national defense applications and by the quantities, specifications and delivery dates to be provided by the DOD.

In addition to preserving the distinct purpose and nature of this interim DPA program, a principal objective of DOE in its transitional management responsibilities is to assure a smooth, productive and expeditious transfer of projects and activities to the Synthetic Fuels Corporation as provided for in both the Energy Security Act and in P.L. 96-304.

In sum, DOE's major thrusts and activities during the transition period will be directed toward:

1. Maintaining the momentum previously established in the execution of Public Law 96-126;
2. Accelerating the near term development of a domestic industrial synthetic fuels capacity, with major emphasis on satisfying national defense requirements; and
3. Providing for an uninterrupted continuum of government and private sector activity to develop national synthetic fuels production, through the expeditious transfer of on-going

programs to the SFC. This transfer may be in the form of committed projects, or in the form of proposed projects being considered or previously initiated under a solicitation and award process.

## II. DOE-DOD INTERACTION

From DOE's perspective, DOD involvement in the interim DPA activities is crucial. To clarify the respective responsibilities of DOD and DOE, a draft Executive Order outlining the respective roles of the two agencies in the execution of the interim program has been drafted by and informally concurred in by both DOE and DOD, and has been submited to the Office of Management and Budget for clearance. This executive order is being readied for submission to the President in the near future.

DOD's requirements for synthetic fuels will be of principal importance in setting priorities among the types of fuels eligible for financial assistance under the new Section 305 of the DPA.

In the solicitation and evaluation process, we expect to have DOD participation in the numerous evaluation, financial assistance, review and procedural groups involved. Planning and discussions are actively underway at the top of both Departments, and between the DOE offices of Under Secretary and Assistant Secretary for Resource Applications and DOD's offices of Deputy Under Secretary for Research and Advanced Technology, Deputy Under Secretary for Acquisition Policy and Deputy Assistant Secretary for Energy, Environment and Safety.

DOE expects the Defense Fuel Supply Center (DFSC) to assume the functions of guaranteed purchaser of the types and quantities of synthetic fuel specified by DOD. The DFSC in its role of guaranteed purchaser will arrange for receipt, use or disposition of synthetic fuels acquired through the financial assistance programs initiated by DOE under the interim DPA authority.

The interaction, to date, between DOD and DOE staff has laid the foundation for the cooperative and productive relationship demanded by the urgency of this synthetic fuels production program.

## III. PRESENT PLAN FOR ALTERNATIVE FUEL PRODUCTION TRANSITION ACTIVITIES

The description which follows of DOE's overall Alternative Fuels Production Program implementation schedule serves to underscore and to understand how the interim DPA financial assistance programs will be executed.

DOe's current schedule calls for a second round of solicitations for Feasibility Study Grants and Cooperative Agreements in the amount of $300 million in August. Under this schedule, we hope that solicitations will be closed by October, and selections made by the end of the year. Grants and contracts could be targeted for issuance by January.

Draft solicitations for Loan Guarantees, Price Guarantees and Purchase Commitments under both the interim DPA and the Federal Nonnuclear Energy Research and Development Act (NNA) will also be issued for public comment by August. Solicitations are planned to be issued shortly thereafter with the response, evaluation, and negotiation timed to produce commitments, as appropriate, by June 1981.

In structuring our solicitations we intend to allow proposers the greatest flexibility to tailor their proposals to meet particular financial assistance needs. To stimulate innovation, we plan to issue solicitations under the DPA and the NNA simultaneously. We will also provide for a smooth transition of programs from DOE to the Synthetic Fuels Corporation to eliminate uncertainties in industry's long range planning and financing. To effect this objective, we will issue a proposed solicitation timetable to the public in August 1980.

The commitment to minimize environmental impacts will be embodied by the inclusion of environmental evaluation criteria in the solicitations.

## IV. IMPORTANCE OF THE TRANSITIONAL INTERIM DPA ACTIVITIES

The progress in the last 15 months towards developing domestic production capabilities for synthetic fuels which have national defense applications has been dramatic. It was March 13, 1979, when I first testified to this Subcommittee on the urgency behind developing such a domestic synthetic fuel capacity/industry. This Subcommittee took its embryonic idea of utilizing the DPA to assist in this task and carried it to the successful stage of implementation exemplified by the progress report it is receiving today.

The characteristic which distinguishes the synthetic fuel production activities which can be financed under the interim DPA authority is their focused dedication to national defense applications. This appears to point to primary emphasis being placed on liquid fuels derived from synthetic feedstocks such as shale oil, coal liquids, and possibly coal-oil mixtures. The economics of refining or processing will, of course, impact on the Government's choice among such potential contenders.

The role the DOD can play here as a guaranteed purchaser of synthetic fuels can benefit the country as a whole inasmuch as large civilian sections of the marektplace, such as the commercial aviation and shipping industries, could be consumers of synthetic fuel products. This added benefit will serve to put into place a commercially representative synthetic fuels industry, capable of serving a broad spectrum of consumer needs.

DOD, on the other hand, can also expect to benefit from the development of a synthetic fuels industry whose economics is determined by a large competitive marketplace compared to one whose survival is tied to a single public customer. DOE's management of all transitional synthetic fuel production funds appropriated by the Congress allows the Government to take advantage, in an integrated way, of the innovative market development capabilities in the private sector. This is the most efficient way to develop a much-needed domestic, diversified alternative energy supply capacity. Simultaneously, it allows industry to take advantage of the best combination of financial assistance packages available under the interim DPA authority or under the NNA.

DOE is committed to using its transitional responsibilities to provide this double-edged advantage to both DOD and to industry.

## V. FINANCIAL ASSISTANCE CAPABILITIES AVAILABLE FOR TRANSITIONAL ALTERNATIVE FUEL PRODUCTION PROGRAMS

The Congressional authorities and appropriations mentioned earlier, while somewhat different in terms of generic authority, provide a coherent related program to stimulate actual construction and operation of alternative fuels production facilities.

Both the DPA and NNA procedures have a common goal; namely, to provide, as rapidly as possible, a broad industrial base for the production of alternative fuels preparatory to the operation of the Synthetic Fuels Corporation. In particular, in the case of the Defense Production Act, synthetic fuels for national defense applications are specified.

In developing this industrial base, sponsors of synthetic fuels projects, including developers as well as those providing the financing, could look to either the NNA or the interim DPA for three distinct types of financial support. These are (1) guarantees against financial loss if the project is not completed; (2) the subsidy needed to equate the market or contract price with production and distribution cost; and (3) a certain market for all or a portion of the product output. All project sponsors will have an opportunity to propose against one or more of these types of financial support to provide the credit worthiness and/or market assistance necessary to finance the project.

Both Acts have the capability if necessary to provide all three types of financial support in one or more ways.

During production facility construction, we anticipate that uncertainties about scale-up to a commercial-size plant, inflation costs and other risks associated with a pioneering plant may induce some project sponsors to seek a sharing of the project's completion risk through loan guarantees.

Under the Defense Production Act, the program would be directed toward commitments to purchase fuels for defense needs, with the additional benefit of simultaneously broadening the commercial base of alternative fuels production.

To provide for subsidy assistance without a market guarantee, price guarantees are specifically authorized and funded under the Federal NNA. Purchase agreements under the DPA, however, can be structured to serve the purpose of price guarantees with a type of contractual arrangement which provides "that the President has the right to refuse delivery of the synthetic fuel involved and to pay ... an amount equal to the amount by which the price ..., as specified in the contract ... exceeds the market price." Similar provisions are provided under the NNA, wherein both price guarantees and purchase commitments are authorized.

## V. CONCLUDING COMMENTS

The President and the Secretary of Energy have emphasized repeatedly the importance and urgency of building a diversified domestic energy supply capacity that will free the country from crippling dependency on uncontrollable foreign sources of energy. The Secretary has also placed a special emphasis both when he was Deputy Secretary of Defense and now as Secretary of Energy on taking all possible actions to meet the energy needs of national defense.

This alternative fuel production responsibility the Congress has assigned to him during the period of transition to the SFC, has his direct attention and support.

Chairman **Moorhead**. Thank you, Dr. Davis.

The subcommittee would now like to hear from you, Dr. Bement. If you prefer, without objection, your entire statement will be made part of the record.

## STATEMENT OF DR. ARDEN L. BEMENT, DEPUTY UNDER SECRETARY FOR RESEARCH AND ADVANCED TECHNOLOGY, DEPARTMENT OF DEFENSE, ACCOMPANIED BY GEORGE MARIENTHAL, DEPUTY ASSISTANT SECRETARY OF DEFENSE, ENERGY, ENVIRONMENT AND SAFETY; AND RICHARD E. DONNELLY, DEPUTY DIRECTOR, PRODUCTION RESOURCES, OFFICE OF THE UNDER SECRETARY OF DEFENSE

Dr. **Bement**. Thank you very much, Mr. Chairman.

Yes, I would request that.

In my remarks I specifically plan to respond to your invitation to describe the Department of Defense role in implementing the Energy Security Act. Before getting into those remarks, I would like to make some comments on why the Department of Defense places importance on synthetic fuel, the basis for our requirements for synthetic fuels over the next decade and also what actions the Defense Department is taking to meet those requirements.

As all of us are aware, that guaranteed access to mobility fuels is essential in assuring national defense whether we are at peace, in time of crisis, or at war.

At the present time our primary need in a highly mobile force structure is for mobility fuels. In 1979, 87 percent of DOD's total petroleum consumption was for mobility fuels for aircraft, shipboard, and land-based mobile systems.

These fuels were in the form of turbine fuels, marine diesel fuels and automotive fuels.

As we look ahead to the future, we see a number of disturbing trends. First of all, as far as petroleum crudes are concerned, we see that the quality of these crudes is degrading with time, which means that the processing costs will go up and the fraction available for producing mobility fuels will go down

We foresee an early crossover in the price of synthetic versus petroleum crude, especially if current escalating trends in the cost of petroleum crude continue.

We see a peaking of worldwide production before the year 2000 with a decline thereafter and a period of continuing tensions in the Mideast which will threaten our offshore sources of supply.

In peacetime we might expect that the Defense Department would be asked to take a proportionate share of any major shortfall between consumption and production. Therefore, we anticipate the possibility of significant reductions in force levels, readiness, and activity rates starting about the year 1990 without alternate sources of mobility fuels.

On December 17, 1977, the Secretary of Defense established a defense shale oil task force and charged that task force to address and make recommendations on alternatives available to the Department of Defense to meet mobility fuel requirements in the 1990's and beyond.

That task force concluded that the Department of Defense would have to make an orderly transition from natural to synthetic oil products in the period between 1985 to beyond the turn of the century. Therefore the decade of the 1980's will be an important transition period for us.

To achieve that goal, the Department of Defense has been pursuing a vigorous program over the past 4 years to qualify synthetic fuels for military use. This includes developing multifuel energy technology, developing specifications to guide synthetic fuels development by the Department of Energy, investigating the logistics required for worldwide use of synthetic fuels by the military, and preparing for the transition to synthetic fuels and blends.

That program includes determining effects of broadened fuel specifications on energy performance and durability. There have been a number of successes under the program to date.

In just the last 3 to 4 years, we have produced 88,000 barrels of shale crude on the naval oil shale reserves and have refined those to a broad slate of products.

We have begun tests on most typical turbine engines, marine diesel engines, and automotive engines in today's mobile military systems in order to determine performance characteristics and long-term effects.

The Defense Fuel Supply Center has recently issued a solicitation to refine an additional 40,000 barrels of shale crude oil, again, for a broad slate of products.

The Air Force is planning to initiate safe-to-fly tests with military aircraft starting in fiscal year 1981. Between fiscal 1984 and 1985, the Air Force intends to convert two Rocky Mountain Air Force bases to complete synfuel use for operational validation.

The requirements of synthetic fuels to carry out the program are large. They range from 90,000 barrels of shale crude in fiscal year 1981 to 7 million barrels in fiscal year 1984.

Our requirements, however, include both shale-derived and coal-derived fuels. We would consume as much as 220,000 barrels per day in 1985, assuming that our operational validation program continues on schedule if that should be in the national interest.

Chairman **Moorhead**. What is JP-4 jet fuel? Is it anything? It doesn't mean anything to me.

Dr. **Bement**. I will tell you what that is. JP-4 is a turbine engine fuel which is rich in naphthalene, a highly volatile constituent, and is used primarily by the Air Force in their military aircraft.

That is a designator for that type of fuel.

Chairman **Moorhead**. Thank you.

Dr. **Bement**. We believe a vigorous stimulus is required to establish commercial production rates to meet the requirements I have just outlined. We believe that the Energy Security Act provides that stimulus and the opportunity for a fast start.

With those comments, I would like to now describe the role of the Department of Defense under the Energy Security Act.

In approaching the act, we have established a threefold policy:

First, is to qualify synthetic fuels for use in fleets of military equipment along the lines that I have just outlined. Having said that, I should declare in defining the roles of the principals here in carrying out the program, even though my title is Deputy Under Secretary for Research and Advanced Technology, that in no way should indicate that we look upon the act or the implementation of the act as a research or advanced technology effort.

My responsibility under the program is to carry out the testing and qualification phases of the program and to qualify military equipment for the use of synthetic fuels. That program is the one that paces the early requirements for synthetic fuels. Once we establish operational validation, then we would expect synthetic fuels to enter our broad logistics system.

The responsibility for logistics policy under the program will fall to George Marienthal who is the Assistant Secretary for Energy, Environment and Safety.

The Defense Supply Fuel Center would be the principal agent for the procurement of fuels necessary to implement the act.

The Office of Acquisition Policy, which also falls under Under Secretary Perry, who has responsibility for research, development, and acquisition, would be responsible for interpreting the use of Defense Production Act legislation.

We intend, as additional policy, to provide whatever assistance we can to the Department of Energy to meet the objectives under the act. This consists primarily of the making available the assets in the Defense Fuel Supply Center to carry out the solicitations and the procurements under the program.

As the third part of our policy, we intend to assure a common approach and consistency in implementing the executive authority under title I and a smooth transition from interim DPA authority to the establishment of the Synthetic Fuels Corporation.

The act in its present form does provide an active role for the Department of Defense inasmuch as the Department of Defense will be a consumer of synthetic fuels produced under the program. This will provide an early market pull for industry and will provide a necessary incentive for capital investment.

The Department of Defense has been actively participating with the Department of Energy in all aspects of energy conservation, energy development, and energy use over the years. We have been active in working with them in preparing the current Executive order, draft Executive order, which delegates Executive authority to both Departments.

Under the Executive order, the Department of Energy has the lead role as far as using the Defense Production Act for production, allocation, and distribution. This is already consistent with Executive Order No. 11790, which also provides similar authorities.

The Department of Defense is providing available resources and is working closely with the Department of Energy in initial procurement actions. This involves representation at each level and in all activities in the solicitation, review, and selection processes. We have submitted to the Secretary of Energy our mobility synfuels requirements, our total fuel requirements, and current technical specifications for the procurement of fuels.

We are also sharing with them our market survey information and responses from industry on terms and conditions for fuel procurement.

We are currently developing a management implementation document to define responsibilities and working arrangements between the two Departments.

In short, we believe that success in implementing the act will require the close interaction and resources of both Departments.

In closing, I appreciate the opportunity to appear before you to make this statement. The Department of Defense is especially grateful to you, Mr. Chairman, and to the Congress, in recognizing the immediate need to establish a secure domestic source of military synfuels to satisfy our future defense energy requirements.

[Dr. Bement's prepared statement on behalf of the Department of Defense follows:]

# STATEMENT ON

# THE ROLE OF THE DEPARTMENT OF DEFENSE IN THE MOBILITY FUELS IMPLEMENTATION OF THE ENERGY SECURITY ACT OF 1980

BY

DR. ARDEN L. BEMENT
DEPUTY UNDER SECRETARY OF DEFENSE
FOR RESEARCH AND ADVANCED TECHNOLOGY

BEFORE THE

SUBCOMMITTEE ON ECONOMIC STABILIZATION

OF THE

COMMITTEE ON BANKING, FINANCE, AND URBAN AFFAIRS

OF THE

HOUSE OF REPRESENTATIVES

96TH CONGRESS, SECOND SESSION

30 JULY 1980

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

It is my privilege to have the opportunity to discuss DoD's interest in synthetic fuels with you, particularly as they relate to assured supplies of defense mobility fuels. In my remarks I specifically plan to respond to your invitation to describe the Department of Defense's role in implementing the mobility fuels assignment under the Energy Security Act of 980. I believe that considerable progress has been made in recent months in response to DoD and the Nation s needs. The Congress and you in particular, Mr. Chairman, deserve considerable credit for your foresight in bringing the Energy Security Act (ESA) into being.

I am accompanied today by George Marienthal, Deputy Assistant Secretary of Defense for Energy Environment and Safety, and Richard Donnelly, Deputy Director for Production Resources.

The DoD policy with respect to synthetic fuels is threefold. The first is to qualify and test synthetic fuels to assure the Services that these fuels can be used in fleets of military engines. The second is to provide assistance to the DoE and other Government agencies to achieve early synfuel production capability to meet national security objectives. The third is to assure a common approach and consistency in implementing executive authority under Title I of the ESA and in bringing about a smooth transition from the interim Defense Production Act (DPA) authority to the establishment of the Synthetic Fuels Corporation.

## I. ENERGY NEEDS AND CONCERNS OF THE DEPARTMENT OF DEFENSE

### A. Need for Secure and Assured Supplies

Our national security objectives can be achieved only if we are thoroughly prepared to meet essential military energy requirements. The continuation of our ability to deter armed conflict, to produce modern weapon systems, to maintain the readiness of our military forces, and to support worldwide commitments on the seas, in the air, and on the ground depends on energy, particularly liquid hydrocarbon fuels.

Accordingly, guaranteed access to assured supplies of energy, particularly mobility fuels, must be considered an essential ingredient in ensuring our national defense. This is true whether we are at peace, in a time of crisis, or at war.

In 1979 approximately 87 percent of DoD's total petroleum consumption, or 405,000 barrels per day, was for mobility fuels for use in aircraft shipboard and land-based mobile systems. Unlike the civilian sector in which approximately 70 percent of the petroleum consumption is in gasoline and heating oil products DoD is considerably more dependent upon the middle distillate fuels nearly 80 percent of these middle distillate liquid petroleum supplies are consumed by aircraft and shipboard systems. While DoD pro rata share of the Nation's total energy usage is comparatively small, the DoD is in fact the single largest energy user in the United States and accounts for 81 percent of the total energy usage by the Federal Government.

In defense terms, our ability to provide assured supplies of energy necessarily requires a supply system that is, to the maximum extent possible, invulnerable to interruption in both war and peacetime. The 1973-74 oil embargo provided the first dramatic, albeit brief, example of our vulnerability to foreign petroleum supplies. More recent events the unstable conditions in the Middle East and particularly in Iran, should once again serve as a constant reminder of the explicit military vulnerability we face with each additional barrel of foreign oil imported to the U S. These events provide renewed awareness of our increasing susceptibility to the potential for political, economic, or military pressure pressure applied by those who either have the ability to control directly or who can indirectly influence the flow of oil to the U.S. and to its Allies.

We must have energy alternatives alternatives that are domestically controllable, technically feasible and economically environmentally and socially acceptable, -- alternatives that are insensitive to foreign supply interruptions alternatives that are insensitive to capricious economic and geopolitical actions.

In wartime, the essential nature of assured supplies of mobility fuels is obvious. I assume that in wartime military fuel requirement would have top priority and could be satisfied by a combination of domestic production, conservation, reallocation, and use of strategic reserves. However there is a broad industrial base supporting the military that would also have to draw on available sources.

### B. DoD Concerns About the Synthetic Fuels Industry

We believe that rapid development of an industrial base to produce synthetic fuels is essential to the national well-being. Administration and interested industry officials have spent a considerable amount of time and effort planning this development with proper regard for environmental and socioeconomic impacts. We believe that the technology is available for an immediate start-up of synthetic fuels production. This production is feasible without adverse impact or major disruption of traditional economic patterns, nationally or regionally.

We have already begun to take the necessary steps with DoE to start procurement actions necessary to provide DoD with synthetic fuels. In this regard we have assigned to the Defense Fuel Supply Center the responsibility to purchase these synthetic fuels by type and quantity necessary to meet DoD's requirements.

Working with DoE, we hope to speed up the development of a viable synthetic fuel industry in this country. The efforts, which to date have been fragmented, will be better focused to serve specialized DoD needs as well as the more general needs of the nation.

To date, the emphasis has been on proving the technology needed to produce synthetic crude oil from various sources. We believe it is now appropriate to devote attention to proving the technology for refining the crude to desired end-use products, and to addressing the problems of synthetic fuel distribution, supply and storage. As a consumer the DoD is particularly interested and concerned with these facets of the effort We are ready and willing to work with DoE to resolve any technological and logistic problems that may be associated with these issues.

## II. DEPARTMENT OF DEFENSE ROLE TO IMPLEMENT THE ENERGY SECURITY ACT

### A. Earlier Actions

The DoE has the lead role in implementing the Energy Security Act. The Act provides an active role for DoD and contemplates that DoD will be a consumer of some of the synthetic fuels production. The DoD is prepared to work with DoE to implement the first stages of the program under the Energy Security Act. We are prepared to use synthetic fuels meeting our specifications and to be supportive of other Government agencies in carrying out their responsibilities in improving the Nation's energy picture. In particular we are working closely with DoE and will offer all available DoD resources to assist the DoE in implementing the Act.

DoD has been testing synthetic fuels since 1970 to determine where their characteristics need to be changed to take full advantage of a full slate of refined synthetic products for military use. Our R&D efforts have made notable progress in component and engine testing. Our engine test program is continuing with a view to furthering the development of multifuel engines, adjusted specifications and engine performance and wear evaluation. While the use of synthetic fuels is not considered a major technical barrier, demonstrating the suitability of synthetic fuels in various end use systems is of importance in establishing the overall economics and market potential of the synthetic fuels industry. With respect to the DoD interes it is essential that the suitability of synthetic fuels be fully assessed before the Armed Forces acquire and use these fuels as they become available in large quantities. The authority in the legislation which provides for a fast start timulus for national defense purposes we hope will permit us to acquire that quantity of test synthetic fuels which we need immediately for qualification testing. This will need the cooperation of the Department of Energy. In this regard it is important that our activities be carried out in such a way as to assure consistency with, and provide a smooth transition to, the SFC. It is this longer term program of the corporation which will ultimately finance most of the synthetic fuels production of this country over the next 10-15 years.

### B. Current Actions

Actions now underway in support of the Energy Security Act include:

o A list of the DoD mobility test synfuel and total fuel requirements and specifications has been provided to the Secretary of Energy and the fuels industry.

o A preliminary letter has been sent to the fuels industry asking for comments on terms and conditions that should be included in synthetic fuel procurements.

o DoD has participated with the DoE in the preparation of an Executive Order which delegates Executive Authority to the DoE and DoD in implementing Title I of the ESA.

o A Management Implementation Document has been started to define responsibilities and working arrangements between the DoE and DoD to implement the Executive Order.

o DoD has committed its available assets within its Military Departments and Agencies to implement the Act.

o DoD is continuing a comprehensive validation program in cooperation with NASA to test jet engines using synfuels.

o The Defense Fuel Supply Center (DFSC) is establishing an organization that will be prepared to assist DoE in expeditiously implementing fuel contracting under the Act after signature of the Executive Order delegating the President's authority under the Act.

The Defense Fuel Supply Center (DFSC) is well qualified to support DoE. Its history began under the Department of Interior in 1942. In 1948 it was designated the Armed Services Petroleum Purchasing Agency under the Department of the Navy. In 1962 it was renamed the Defense Petroleum Supply Center and placed under the Defense Supply Agency. Now under the Defense Logistics Agency, DFSC has responsibility for procurement of energy supplies for most of the federal agencies. DFSC has developed logistic management and energy distribution networks worldwide. To perform its distribution function it use ships pipelines and all modes of surface transportation. The DFSC also manages a vast network of storage facilities for its distribution network. DFSC has provided direct support to the industrial base to produce high octane gasoline. Last year, DFSC managed a fuel budget of more than $6B for an average throughput of 460,000 bbl/day. There is no corresponding capability in any other Government agency.

## C. Future Actions

The Energy Security Act amends the Defense Production Act of 1950. The Department of Energy will assume the lead role in supporting the development of plants and facilities necessary for the production of synthetic fuels and the DoD will provide assistance wherever possible, which as minimum would involve providing contracting support. We believe that the Defense Production Act, as amended, will provide DoD with access to new fuel supplies which could be essential to the national defense.

In 1981 we have projected requirements of more than 90,000 bbl of synthetic fuels in our test programs and this would increase as we test more engines to slightly over 110,000 bbl in 1982. As our efforts shift from testing individual engines on test stands to a fleetwide demonstration program, our fuel requirements for testing will increase dramatically We estimate this requirement to be 3.5M bbl in 1983 and 7M bbl in 1984, at which time we expect to complete our testing and validation program for JP-4 grade of synthetic fuels for military jet engines.

DoD operational requirements for synthetic fuels will increase gradually as we become confident that they can be used in our military engines. By 1984 we would be able to utilize 63M bbl, approximately 170,000 bbl per day, if such a rate of assimilation is in the national interest In 1985 this could increase to a daily rate of over 220,000 bbl. By far the greatest requirement more than 50 percent, will be for JP-4 jet engine fuel. At that time, approximately half of DoD's fuel consumption would be synthetic. The rate of growth of our synthetic fuel requirements is based primarily on our expectation of the rate of growth of the U.S. synthetic fuel production capability, and does not represent a constraint in our ability to assimilate synthetic fuel products.

### III. DEPARTMENT OF DEFENSE AND DEPARTMENT OF ENERGY INTERACTIONS

Members of the Department of Defense and the Department of Energy recognize their strong mutual interest in selected areas. This interaction has resulted in both Departments meeting objectives more rapidly to the benefit of the nation. In various areas of mutual interest approximately 50 interagency agreements have been consummated from 1975 to 1980. In the mobility fuels area, two agreements have been developed and an additional one is under discussion at the present time. On March 10-12 1980, a Joint DoD/DoE Energy Activities Workshop was held to bring together all the existing interacting activities and to examine and expand them where necessary. A result of the meeting included the establishment of policy level and working level committees which involve the managers of both departments. As a result of these activities more extensive interaction is planned for FY 1982 and beyond, and new initiatives directed at reducing the Department of Defense's dependence on foreign oil will be undertaken.

### IV. CONCLUDING REMARKS

Mr. Chairman, I appreciate having the opportunity to appear before you and present the views of the Department of Defense on synthetic mobility fuels.

In summary, we believe the role of DoD as a consumer can be fully realized through the private sector properly stimulated by Government backing. The Defense Production Act amendments provide DoD with the ability to develop an access to mobility fuel supplies that could be essential to the DoD mission. Looking to the foreseeable future, we now see some relief to our dependence on foreign source of energy which, considering the reality of DoD dependence upon liquid hydrocarbon fuels, is a welcome change. Through conservation and energy management we should be able to improve further our ability to satisfy defense energy requirements in the near term with additional options available to us for developing longer-term contingency plans for energy supply.

Chairman MOORHEAD. Thank you, Dr. Bement.

At the opening of the hearing, the Chair announced that opening statements would be deferred until after the conclusion of the prepared testimony.

I will now take this occasion to make a few gentle remarks.

A little over 1 year ago, the members of this subcommittee recognized the fact that the time had come to bite the bullet on synthetic fuels. For years our scientists have been saying, "Give us another year and we can produce a better system for producing synthetic fuel."

This subcommittee recognized that if we waited 1 more year, the scientist would say again, "Wait 1 more year and we can produce an even better system."

Under our democratic system, some institution has to bite the bullet and say "Damn the torpedoes; full speed ahead."

It was the lot of this subcommittee to make that choice. Members of the subcommittee, I am proud of you for the courage you displayed in making that decision.

Let me restate that decision for the benefit of our witnesses.

The decision was to make the leap from research, development and pilot plants into economically sound commercial production of synthetic fuel.

The House of Representatives, by a vote of 368 to 25, agreed with our leap into the future.

After that, the U.S. Senate and the President agreed. After that the House-Senate conference committee, which I had the honor to chair, not only agreed, but expanded on our original concept.

The attitude of the White House and the Congress was changed. It is clear to me that the mind-set of the bureaucracy has not.

For that reason, I would say to our two witnesses today that I am displeased, discouraged, and disgusted with the statements that you have been forced to present to this subcommittee.

This has nothing to do with the personalities who appear before us. No member of the executive branch has been more effective and influential in producing this legislation than the Assistant Secretary for Resource Applications, Dr. Ruth Davis, who appeared before this subcommittee in her previous incarnation as Under Secretary of Defense for Research and Advanced Technology.

I might say in addition that the Department of Defense here represented by Dr. Arden Bement, has been especially enthusiastic to move ahead on synthetic fuels to protect our national security interests.

However, I am disappointed that the Department of Defense, which this subcommittee ruled to be the lead agency, has hoisted the white flag of defeat and surrendered the primary role of providing essential Defense Department need for domestically secure mobility fuel under the Defense Production Act to the civilian oriented Department of Energy.

I am also distressed by the title of the Defense Department witnesses. We have before us a very fine gentleman who, however, bears the title of Deputy Under Secretary for Research and Advanced Technology.

Ladies and gentlemen, you have missed the whole point of this legislation.

It is not "research."

It is not "advanced technology."

It is a program for immediate commercial production using today's technology.

This legislation did not originate in a committee dealing with research and advanced technology. This subcommittee is a financial and business subcommittee designed to give financial incentives to those members of the free enterprise system who are ready to begin the creation of a new industry, the synthetic fuels industry, right now.

I now turn to that representative of the executive branch who, in my opinion, did more than any other member of the executive branch to promote this nationally essential synthetic fuel program, Dr. Ruth Davis.

Dr. Davis, my high regard for you is almost without bound, but you come from a governmental department for which I have a minimum high regard so far as synthetic fuels are concerned.

I know that you and the Secretary, who came from the Department of Defense, realize that prompt and immediate action on synthetic fuel is absolutely essential to the national security of the United States, and that immediate creation of a new synthetic fuel industry is essential for the achievement of that objective.

As a member of the Government Operations Committee, I was "present at the creation" of your Department.

I know that we created the Federal Energy Administration and the Energy Research and Development Administration.

I know that the agencies we created were primarily nuclear oriented and research oriented.

I know that the bulk of the personnel transferred to those agencies were primarily scientifically oriented rather than business oriented.

When we on the Government Operations Committee reported a bill to create the Department of Energy, we hoped to change that orientation.

Based on the testimony presented before this subcommittee today, I must concede that we obviously have failed.

Your title, Dr. Davis—Assistant Secretary for Resource Applications—does give me encouragement, as does your personal dedication to the business concept that this subcommittee has been trying to foster.

However, there are words and phrases in your testimony, probably imposed from on high, that persuade me there are troops in your Department who have not yet grasped the fact that the Congress of the United States and the President of the United States have determined that the time is now for this country to unleash the hobbled talents of the free enterprise system to produce essential synthetic fuel for the national security and economic wellbeing of this country.

The purpose of this subcommittee and the Senate-House conference committee was to use primarily the purchase agreement and price guarantee mechanism. That was so that the free enterprise system would use its ingenuity to produce a solution to our energy problem.

We did not say that the Government should select the raw material, the technical processes, nor the location of synthetic fuel plants.

We did not intend for those to be Government decisions, but private enterprise decisions.

Again, this subcommittee, which originated and ultimately passed this legislation, is not a scientific committee; it is an economic and financially oriented committee. Our message was to industry and that message was, "With minimum Government assistance and interference, we want you to go, go, go."

The testimony you are about to present to this subcommittee clearly shows to me that the top officials of your Department have not received that message.

Your testimony indicates to me that your Departments clearly lack the willingness to let the decisionmaking and the risktaking process fall on the shoulders of the private enterprise system.

Your testimony indicates to me that there are influential members in your Department who still believe that big government knows best.

The objective of this subcommittee and the Senate-House conference committee was to maximize private decisionmaking and private risktaking. The objective of this subcommittee and the Senate-House conference committee was to minimize Government intervention so that this country, using the best combined talents of private industry with Government support, could achieve the future today.

As the former chairman of that conference committee on the Energy Security Act, I have a series of messages I am commissioning you to relay to the administration:

First, we want the Executive order signed now and put into immediate effect.

Second, we want the solicitations for defense fuels and any needed financial assistance to go out to industry now.

Third, we want the selections and negotiations to proceed as soon as possible thereafter.

They should all be in place before the end of this calendar year even if some are in the form of conditional commitments.

I would like to see those contracts signed and in place before I leave the Congress, and that would be January 3. If you want to have somebody mean and nasty pushing you around—maybe—although I think my good friends, Stewart McKinney and Jim Blanchard, will carry on very ably.

Fourth, we want the ground broken for the construction of the first plants early next year so we can take advantage of the full construction season.

Fifth, in short, we want you to comply with the letter and full spirit of the law which the President signed by his own hand June 30.

That law directs the President to take "immediate action" to develop a synthetic fuel industry for defense purposes.

We are demanding nothing more than he already has sworn to wholeheartedly and solemnly do.

Mr. McKinney, do you have any comments?

Mr. McKINNEY. Mr. Chairman, you were so eloquent that I think I broke my typewriter.

Dr. Davis, I have to say it is a delight to see you. I have quoted you many times, not your secret testimony obviously, but your public testimony.

Frankly, you scared me a year ago. I think this whole subcommittee became galvanized into more dedication than we thought we could possibly have.

It seems to me I remember you had a little trouble testifying in front of us that day. You were sort of abandoned by the Department of Defense somewhere between here and the Pentagon. You came forth and said your piece and got us going on this long course.

I really don't see where much has changed. I was going to write you a letter and congratulate you on your move to DOE, but then I thought, why should I write a letter and congratulate you when I think we should probably abolish that organization.

I was fascinated to note in talking to some of my friends at the Department of Agriculture—and they are few and far between since Fairfield County is not known as a farm belt town—that at the mutual meeting to set gasohol policy under title II, DOE had the great commitment to send consultants and the Department of Agriculture representatives had to walk out because they sent policymakers. You can't make policy with consultants.

No matter where I look, I see my good friends down at HUD, where some amorphous GS figure by the name of Joseph Sherman has decided that he can set the policy of the U.S. Government by stating that in essence the conservation bank is a disaster, although the President and the Congress thought otherwise; and that he is going to—he called it a dog, excuse me, and that he is going to set the income levels for the solar bank at 80 percent of median income when 35 Senators and 18 Congressmen discussed the very issue of median income for over 3 very hot days.

No matter where I look, the bill is being subverted and the purpose is being subverted. The whole point in this little committee, the Economic Stabilization Subcommittee—whoever heard of it acting through the DPA was to get through this Congress what we had not been able to get through since 1974 by, I suppose, pulling an end run, I guess you could call it.

Somehow or other we all got galvanized. I would just like to say as we sit here, what I said on the floor of the House when we pursued the Energy Security Act. Mr. Chairman, it won't take me very long.

We sit here as a nation declaring we are the leaders of the free world. Yet if our energy were cut off tomorrow, we could not lead anything. We sat in the Economic Stabilization Subcommittee receiving testimony from the Department of Defense, from the Treasury Department, and the GAO, telling us we really do not have any options.

Could we save Saudi Arabia today? Questionable.

Could we save Israel today? Questionable.

Our energy situation has put us in an intolerable position. We cannot do what the British did in Suez which is declare a victory and leave. We can't do that.

Or we can push the big red button. Those are our options because we do not have the ability, we do not have the power, we do not have the energy to sustain this country's position in the world.

Our European allies in Venice as much as told the President of the United States to pack his bags and go home; politely, but they said it.

Why? They see the United States with an economy out of control, an energy policy out of control, our foreign policy out of control, and they realize that the whole Western World's economy, military, defense, and everything is based on the U.S. economy and U.S. military might, both of which they perceive as gone.

The stakes are so high that I can't comprehend what is happening. I have talked to some of my good friends in the Senate. I would agree mildly with the chairman: We are not going to let go on oversight of this issue. If we have to have people from downtown every day from now until November 4 and beat them over the head with sledge hammers, we are going to do that.

This bill was passed to put a program into effect immediately. To be talking merely technology, experimentation, is not what we wanted to do, if for no other reason than to tell the rest of the world we are serious about synthetic fuel production.

I don't care, quite frankly, if my constituents know I am willing to blow $20 million in a process that is not perfect. At least I want someone in the world to know that we are tired of throwing $90 billion across the ocean every year.

I have to sometimes question my friends down at the Department of Defense. I have sat in strategic briefings listening to the horror of our just trying to maintain 30-odd ships in the Arabian Gulf.

I am requested to "register" American citizens for the possible draft, because we are so concerned about the energy issue. Yet we are not doing a darned thing about it.

Thank you, Mr. Chairman, for letting me go past my time.

Chairman **Moorhead**. Mr. Blanchard?

Mr. **Blanchard**. Thank you, Mr. Chairman.

I think this subcommittee and our Congress owe a great debt of gratitude to you, Mr. Chairman, and our ranking member, for having persisted on the subject of synthetic fuels for so long and with such tremendous influence and success.

I guess I would concur with what you have said and only add one footnote. That is this: It struck me throughout the deliberations of the synthetic fuel bill that for reasons of laissez faire economics and also special interests, that there were those within the administration and in private industry who wanted to see not a massive development of synthetic fuels but a controlled development and perhaps a slowed development of synthetic fuels.

From the deliberations of some Senators, and now it appears the conduct of the administration, it would appear that a priority has been placed on controlling the growth of synthetic fuels rather than spurring it. That will mean a slowed growth without DOD acting as we have insisted and legislated.

I think it is a disgrace to the Nation if inaction continues, certainly an insult to the Congress, probably a disregard of the law.

It would appear that once again laissez faire economics and laissez faire conduct is a response to an important national emergency. I think it is a terrible tragedy and a hoax if we are going to go out to the people and talk about a massive and aggressive synthetic fuels program.

I can't understand why contracts weren't already written up, ready to be signed, when the President had his important celebration at the White House several weeks ago. I don't direct my comments to any of you in particular at all, but certainly my frustration equals or exceeds that of my two distinguished colleagues who, again, I think all of us on the subcommittee can be proud to have served under, especially our departing chairman, Bill Moorhead.

Thank you.

Chairman **Moorhead**. Thank you.

Mr. Green?

Mr. **Green**. I think it is important that I set forth for the record my concurrence with the chairman and the ranking minority member as to what our intention was when we acted on the synthetic fuels legislation. While it is unfortunate that that legislation got caught up in a very extended conference, nonetheless it certainly had been my hope that, at the conclusion of that conference and the signing of the legislation which evolved from it, the executive branch would be ready to be off and running on the program for commercial production equivalent to 500,000 barrels a day of oil.

I think it was very clear from the testimony before us when we considered the synthetic fuels measure that there did exist a commercially viable technology. Examples of such technologies were in use in South Africa and in Brazil. I think it was very clear that this Congress and the President by his signing of the bill, were prepared to pay more than the going market price for oil in order to bring that technology into large-scale existence in the United States.

I, therefore, share the concerns that have hitherto been expressed today that that does not seem to be proceeding at the pace we anticipated a year ago, and that we do not seem to be moving rapidly on the kind of crash program that this subcommittee had anticipated as we worked on the synthetic fuels legislation.

I yield back the balance of my time.

Chairman **Moorhead**. Mr. LaFalce, do you have any opening comments?

Mr. **LaFalce**. Mr. Chairman, I would like to get on to the questioning. The only thing I would like to do is register my complete concurrence with your opening remarks.

Thank you.

Chairman **Moorhead**. Mr. Hinson, do you have opening remarks?

Mr. **Hinson**. Mr. Chairman, thank you very much. I could not agree more with the eloquent statements you made and our distinguished minority member made. If the chairman of this subcommittee leaves no other legacy to the American people other than a working synthetic fuels program, it would be enough.

Mr. Chairman, you have left a long and distinguished record of achievement and service in this Congress. I would like to take this opportunity to say we are going to miss you very much next year.

Another member of this body, one of my predecessors in this office, once said it was hopeless to expect any Federal agency to make a wise decision if it had the option of making a stupid decision or simply making no decision.

This bill passed the House and was signed by the President. I don't believe it provided the slightest discretion to the President or to the Department of Energy or the Department of Defense or HUD to abrogate arbitrarily the mandate that is contained in this landmark legislation.

I hope this subcommittee will go forward to find out the reason and the individuals responsible for attempting in some way to sidetrack or abrogate the intent of Congress and the needs of the American people to have a usable, workable synthetic fuels program so that we can become once again energy independent in this country and meet our national defense need which I perceive as the most critical need of this country.

I certainly intend to cooperate fully with this subcommittee. I hope the distinguished representatives of the Federal agencies here will take back a message to their people: This subcommittee and this Congress doesn't intend to sit back and let the intent of the Congress and the intent of the American people to have a workable synfuels program be thwarted.

I yield back the balance of my time.

Chairman **Moorhead**. Mr. Evans, do you have any opening comments?

Mr. **Evans**. I fully support your statement, Mr. Chairman. I have no further comments.

Chairman **Moorhead**. Mr. Paul?

**Mr. Paul.** Thank you, Mr. Chairman. I do have a short statement.

I happen to take a different viewpoint from what seems to be the consensus of the subcommittee this morning. I am not a bit surprised or shocked at the complaints that are levied against the synfuels program. They are exactly what I expected.

The thing that really surprises me is that the discovery was made so soon. Here it is only 30 days, and they have already discovered the program is a failure.

I commend the subcommittee for discovering that things are not working as well as anticipated. I am not very optimistic that dragging people from downtown over to this subcommittee on a day-to-day basis from here to November will do one bit of good. It is not going to do any good.

I compliment the subcommittee, though, for the good intentions of developing synthetic fuels. I wholeheartedly endorse the concept of the synthetic fuel program and the need for it. I just happen to believe that the Government is the wrong agency for developing this program. The intention has to be complimented. This can hardly, however, be construed as a free enterprise system.

When you incorporate Government funding and Government initiation, you cancel out the market economy no matter what kind of label you put on it.

To be correct and efficient, to achieve what we want to achieve, we must do it through the private marketplace. The money must come from the marketplace. There must be an intent to make profit, and there must be people answerable to the individuals who invested the money, to the stockholders. Without that, you can't achieve it.

When the post office was changed to a so-called corporation, so it would be run in a more businesslike manner, it changed the name but not the efficiency of the post office.

Therefore, energy needs cannot be satisfied by Government programs, no matter what their names. These programs are the problem, not the solution.

**Chairman Moorhead.** The subcommittee will now proceed under the 5-minute rule. I caution the staff that they keep a close time on the chairman because I have more things that I want to say than I can do in 5 minutes.

I would like to ask both of you a question: I can understand why nobody in either department took action when this subcommittee acted over a year ago, or even when the full committee acted, because at that time nobody believed that a synthetic fuel legislation could originate in the Banking Committee or the Economic Stabilization Subcommittee and be passed, but after that, the President announced his support, the Senate started to take action. Well, maybe then you should not have—can't be faulted for not having started action.

But the conferees met in December, agreed in principle how the Defense Production Act and the Synthetic Fuels Corporation would be both melded. Well, there were still some pitfalls, and maybe you still shouldn't be faulted.

But in March the conferees reached final agreement on the synthetic fuels, title I of that big bill. It seems to me at that time you should have had the Executive order drafted, the forms for solicitation for bids drafted. The handwriting was on the wall: There was going to be a bill signed. Title I was agreed upon.

Now you are saying we are drafting an Executive order, we are drafting requests for proposals, and we think we can get them out in August. Why? Why aren't you ahead of the game? Why couldn't you hit the ground running on the afternoon of June 30? Is there any explanation for that?

Dr. Davis. Let me start off, Mr. Chairman, and say, first of all, that my impatience with the speed with which we are setting up a synthetic fuel industry matches those of the speakers on your subcommittee.

Let me point out that I have no intent to apologize or no intent to excuse the Department of Energy, I would like to just simply make the following points about what has been done.

We did start in November last year in the Department of Energy to implement the interim synthetic fuels activities requested by Congress, and rightly so, under $2.2 billion appropriated to the Department of Energy.

This was the intent of Congress to not wait until the Synthetic Fuel Corporation was set up, but get going. I heartily endorse that intent of Congress to get going in the interim on the synthetic fuels industry.

We were charged within the Department of Energy—and I did have that responsibility—of using the $2.2 billion for cooperative agreements, feasibility studies, loan guarantees, and price, and purchase commitments. The contributions we made in that regard are significant in the following sense:

One, it is the first activity where Congress and the executive branch put its money where its rhetoric had been, and where we did proceed to allocate the $200 million toward production-oriented, not R. & D.-oriented actions.

Second, we did develop for the first time within the Government the kinds of regulations and the solicitations that would allow loan guarantees, purchase and price commitments to be solicited. That was done on a fast track between November and June of this year.

So that what we have to offer to you as a result is $200 million in programs underway now that are not R. & D. but are aimed toward production and synfuel capability. We have also the expertise necessary in the financial and economic marketplace activities which enables the Government to be responsible along with industry for the development of synfuels activity. That expertise has been developed primarily since November of last year.

To answer further your specific question on the Executive order, I would say the Executive order was dependent upon the transition and what Congress intended to have happen in the transition between the time of the signing of S. 932 and the determination that the Synthetic Fuel Corporation would be operational, or fully operational, as Congress has stated.

Until we could see what that interim period consisted of: Namely, both in terms of time and in terms of determination—it was difficult to draft an Executive order. It was also difficult to draft it until we were assured of what agencies were going to be involved.

As soon as it was evident that the Department of Energy and the Department of Defense were going to be involved—and that occurred at the passage of Public Law 96-304—an Executive order was immediately drafted and work began on it to define the roles of DOD and DOE.

We could have, perhaps, presumed that splitting of responsibilities by Public Law 96-304, and I think we did, but we did not presume to initiate formal actions toward drafting that Executive order until that kind of time period had been assigned.

I also have stated in my statement that this Executive order is in the fast process in OMB, with DOE and DOD having fully discharged their responsibilities of getting ready for Presidential signature.

Chairman **MOORHEAD**. The worst thing for staff is to obey orders. I have this slip saying my time has expired. I do want to just——

Mr. **MCKINNEY**. Mr. Chairman, I am going to yield my 5 minutes to you.

Chairman **MOORHEAD**. I want everybody to participate in this. Thanks.

I do want to insert in the record at this time, without objection, a list of 18 corporations that have expressed interest to the Department of Defense. I believe this was as of July 17. If there are others, I would ask Dr. Bement to supplement that list. I presume that DOE is also familiar with that list.

[The following corporations have expressed interest in synthetic fuels to the Department of Defense:]

Gulf Oil Corp., P.O. Box 1166, Pittsburgh, Pa. 15230.
Union Energy Mining Division, Union Oil Co. of California, 461 South Boylston Street, Los Angeles, Calif. 90017.
Synthetic Fuels Division, Ashland Oil Inc., P.O. Box 391, Ashland, Ky. 41101.
Paraho Development Corp., 300 Interprise Building, Grand Junction, Colo. 81501.
Sun Petroleum Products Co., 1608 Walnut Street, Philadelphia, Pa. 19103.
Phillips Petroleum Co., Bartlesville, Okla. 74004.
Koppers Company, Inc., Koppers Building, Room 1528, Pittsburgh, Pa. 15219.
Tosco Oil Co., 10100 San Monico Blvd., Los Angeles, Calif. 90067.
Rio Blanco Oil Shale Co., 9725 East Hampton Street, Denver, Colo. 80230.
Exxon Corp., Exxon Building, Avenue of the Americas, New York, N.Y.
Cities Service Co., P.O. Box 300, Tulsa, Okla. 74102.
Fluor Corp., 3333 Michelson Drive, Irvine, Calif. 92730.
Geokinetics Inc., 280 Buchanan Field Road, Concord, Calif. 94520.
The Standard Oil Co. (SOHIO), Midland Building, Cleveland, Ohio 44115.
Hydrocarbon Research, Inc., 1313 Dolly Madison Boulevard, McLean, Va. 22101.
Oil Shale, Superior Oil Co., 2750 South Shoshone, Englewood, Colo. 80110.
Colony Development Co., P.O. Box 5300, Denver, Colo. 80217.
Occidental Petroleum Corp., P.O. Box 2999, Grand Junction, Colo. 81501.

Chairman **MOORHEAD**. I do this, first, to show the variety of corporations that have interest, and also with the thought of inspiring others who might be interested to make their interests known to both the Department of Defense and the Department of Energy.

Chairman **MOORHEAD**. Mr. McKinney?

Mr. **MCKINNEY**. I essentially have one very simple question.

Dr. **BEMENT**. Excuse me. Mr. Chairman, may I respond to the statements?

Chairman **MOORHEAD**. Yes.

Dr. **BEMENT**. To start with, just a personal note. I hope you will judge me by my convictions, rather than by my title. My convictions are very much the same as yours as far as the readiness of industry to bring into commercial reality current technology.

That is based on my technical insights. My business insights tell me that there are a number of incentives that the Department of Defense has identified with industry that will provide the necessary stimulus to bring that about.

I might say that we anticipated the bill by at least 4 years in terms of bringing about one incentive which was perhaps the most important one—establishing a market for the products—not only qualifying military equipment for the use of synthetic fuels, but also examining carefully the ability to refine these fuels into the necessary slate of products and determining required hydrotreating and hydrocracking technologies.

Five months before the bill was signed, we did meet with industry: namely, the representatives you have just made reference to, at the American Petroleum Institute.

At that time the provisions of the bill and the passage was uncertain, but we were also encouraged that the bill would ultimately be approved. We were also encouraged at that meeting that industry was ready to move ahead.

The major concerns at that time were plant siting, the quantity of available crude, the need for crude upgrading, guaranteed purchases at escalated prices, and, as you pointed out, the minimizing of Government involvement.

It has never been our intention to be on the critical path in any of these activities.

Among the representatives that you have mentioned, about a third of them, and I am just estimating, were ready to move out with guaranteed purchases at market rates. About a third of them wanted a guaranteed price at some escalated level that would underwrite the processing costs.

Some of the smaller refineries and producers needed debt financing in order to upgrade their refineries and put in the necessary headend hydrogen treating facilities to treat the shale crude.

Nevertheless, in adding up their projections, we felt that they could bring production on line even more rapidly than the goals set under the Energy Security Act.

Therefore, I would agree with you, at any rate, that this is an enterprise that should get underway rapidly and can get underway rapidly.

I should also point out that there are some other requirements that are not embodied totally in the act. One is that under the use of our stock fund, we still have limitations on multiyear funding.

We can only fund incrementally. That is an impediment at the present time in carrying out a long-range guaranteed purchase agreement.

Also, I might point out that another need that industry indicated was invoking section 103(e) of the Defense Production Act in order to obtain the necessary critical materials and equipment to bring about plant construction.

That is also a very major issue.

I should end by saying that the major worries are really about new siting and environmental restrictions at the present time.

Chairman **Moorhead**. Well, I am very pleased that you are not bound—feel bound by the title of research and advanced technology.

I also notice that Mr. Marienthal, who is also here, his title is energy, environment and safety.

I chaired the subcommittee that had jurisdiction over both of those. I would rather see energy alone in this title. Mr. Donnelly is production resources. I presume that is broader than energy.

I am a little concerned about the titles and people being influenced by them. I used up more than my share of the time eliciting the answer.

Mr. McKinney?

Mr. **McKinney**. Essentially I have really one question: Where is the roadblock. What is the problem?

Dr. **Davis**. Mr. McKinney, I don't think there is a roadblock if this subcommittee keeps up this constant vigil to insure that your intent, as you stated it very clearly—the chairman's statement, your statements I think were excellent statements of intent. It gives you a record on which you can maintain a very, very strong, continuing vigil.

From our point of view, we have already worked with every company that has any capability of getting into production through the activities we have done since November, whether it is coal liquids, shale oil, tar sands, heavy oil, enhanced oil recovery, or other activities which support the Department of Defense.

We have seen what they can do on the feasibility studies and cooperative agreements. We are aware of what they want under loan guarantees and price and purchase commitments.

We will be out within the next 2 to 3 weeks with this draft solicitation that will enable them to comment back to us. That solicitation is the result of our activities since last November, and it represents 7 or 8 months of work with the financial community.

I would also point out that the Department of Defense has given us the necessary requirements. They have already given us, in draft form, their requirements whereby for the first time in the Government we can go out on a nonambiguous, nonamorphous, synfuel production solicitation; namely, that dedicated to certain specific kinds of requirements.

I don't see any roadblock. You have given us $3 billion, plus $2 billion more. I think you ought to not assume any roadblock.

Mr. **McKinney**. Who is writing the Executive order? Where is that going to come from?

Dr. **Davis**. It has been drafted. It was put together by the Department of Energy and the Department of Defense people. Dr. Arden Bement and I took the lead roles there.

It has been developed as far as DOD and DOE is concerned, their job is done. It is now in the Office of Management.

Mr. **McKinney**. Aha. I figured. I just knew it. That was going to be my next question. How long has it been at the office of mismanagement—never mind. Don't get me started.

How long has it been down there?

Dr. **Davis**. It was signed out of our two agencies on Monday of this week, if I recall right. We have asked for a fast track. I have asked that our solicitations not be held up while the Executive order is being processed for the President's signature.

Mr. McKinney. Was your testimony before this subcommittee expurgated or examined by the Office of Management and Budget?

Dr. Davis. It was certainly examined and reviewed. They do that for all of our testimony. There was nothing of substance removed. Perhaps that is because I have had experience in how to write so that that will not happen.

Mr. McKinney. That makes you extremely lucky. Poor Pat Harris. Every time she came up here, she would have six missing pages.

Dr. Davis had an experience like that also a year ago. It seems to me when I heard you testify last time, I kept turning over blank pages.

The Office of Management and Budget is a wonderful organization. I always thought that that group belonged to the President. I find out there are only six people in that organization that the President can appoint.

We still have Richard Nixon down there. I thought we got rid of him years ago.

I know I said that. I would say it again.

I think my chairman can promise me when we come back from recess, if we are still on this good Earth, we will have the Office of Management and Budget up here, for all the good it will do us.

I have tried to have them audited, examined, chased by GAO, and everyone else. They just hang up a big sign on the door that says "Executive Privilege."

Dr. Davis. Mr. McKinney, if I may interrupt, I think it is important that I say two things: One is, DOD and DOE are proceeding on the basis that that Executive order is being signed.

Second, the Department of Justice is a key agency in approval of that kind of Executive order.

Mr. McKinney. I am glad to hear that. Thank you.

Chairman Moorhead. Mr. Blanchard?

Mr. Blanchard. Thank you, Mr. Chairman.

I am curious, Dr. Bement. In your testimony you indicated that by 1984 we could utilize approximately 170,000 barrels a day of synthetic fuel. That would involve at least three plants with the capacity of 50,000 barrels a day.

How on Earth would we be able to crank up to that capacity if we don't start immediately?

Dr. Bement. I should point out that even projecting further, being in a position to assimilate as much as 220,000 barrels a day by 1985—which represents almost 45 percent of our total fuel requirements—is really what I would call a very aggressive program.

You are quite right. Bringing on line the commercial capacities is the limiting factor. I merely indicate what our rate of assimilation is if it is in the national interest. This ought to provide a tremendous market pull for industry to use their equity financing as well as whatever Government stimulation is necessary to bring that production online.

Mr. Blanchard. I have dealt with and talked with some people in private industry that are fairly knowledgeable. I don't mean necessarily from the energy companies. I am confident I could get on the phone and within a half hour have the names of a substantial number of companies that, only with an offer to purchase from the Department of Defense, will come up with sufficient numbers.

How many contracts do you expect to let, offers to purchase, rather than the more expensive, costly route of underwriting loan guarantees?

**Dr. BEMENT.** I would agree that guaranteed purchase should be a major element of the financial strategy.

**Mr. BLANCHARD.** Big companies, that is all they need. They don't need any other subsidy, no matter what anybody says.

**Dr. BEMENT.** That is right. Some larger companies would like to have a price guarantee. There are several that would do business merely on guaranteed purchase.

**Mr. BLANCHARD.** You do realize they would love to wait a couple of years, get this big fat energy security corporation established, and then get a loan guarantee and a purchase offer all at once?

It strikes me that having spent—this same subcommittee dealt with the aid to Chrysler issue. That was a tough one. This is like falling out of bed, if you just do what you ought to do. That was tough. It turns out we ended up getting the money to Chrysler quicker, after a year, than we have to synthetic fuels.

Maybe if Mr. Paul would run the program, it would run a little faster.

I am curious as to what functions have been delayed or what powers, what actions will be delayed until the new energy security corporation is fully operational which is, as we all know, at least 2 years, probably longer. What is the decision?

**Dr. BEMENT.** I don't really think that is a pacing factor. I think through use of our procurement authority and the authority that the Department of Energy has, we will be able and have the flexibility to provide a smooth transition from the interim Defense Production Act to the Synthetic Fuel Corporation whenever it is approved.

**Dr. DAVIS.** In response to that too, Mr. Blanchard, I think that the interim supplemental for fiscal year 1980 that allows the administration to go ahead with roughly a $5.4 billion program in expectation of the Synthetic Fuel Corporation means that—to use a phrase of Congress itself—that the momentum that has been started in the last year, last November, will not only be continued, but I think be significantly increased because of the special import that the interim DPA brings to a dedicated type of activity.

By that I mean for the first time we have a guaranteed purchaser, and it is very difficult to set up a new production capacity for which there is no market. The interim DPA authority gives DOD the role of being that purchaser, and therefore it establishes a market.

Second, the dedication of that to a specific kind of synthetic fuel development allows focused attention on a subset of all possible alternative fuels, and therefore I think it offers an accelerated program.

I don't believe that there is going to be any—thanks to both the Congress and the administration—significant action that cannot be initiated before the Synthetic Fuel Corporation is declared fully operational.

Mr. BLANCHARD. Did I hear you correctly in response to the chairman's question, you expect solicitations to go out within 3 weeks?

Dr. DAVIS. In early August. The exact date is unavailable, but it is early August. These are draft solicitations on which industry will come in and indicate whether there are some suggestions that they would like to see incorporated in them which we will entertain.

Mr. BLANCHARD. My time has expired. Thank you.

Chairman MOORHEAD. Mr. Green?

Mr. GREEN. Thank you, Mr. Chairman.

Dr. Bement, I was a little puzzled, given the economic slack that we are facing now and in the months ahead, at your mention of the fact it might be necessary to invoke other authorities under the Defense Production Act in order to get the necessary materials for the construction of these synfuels plants.

Can you tell us a little more about that?

Dr. BEMENT. No. I am sorry. I misspoke myself. Actually section 103—to give priority to critical materials and equipment—that is a section of the Defense Production Act.

Mr. GREEN. I understand that. I am still a little puzzled. You seem to think there is going to be a shortage that will require this prioritization. I wonder if you could explain to us what that is? The way you see that?

Dr. BEMENT. Well, the lead time—perhaps Mr. Donnelly can be more specific about that on some items of critical equipment—could be quite, quite long, as long as 4 years in the current marketplace.

We would hope to reduce that by providing a priority under the Defense Production Act to those that would bid on this program.

Mr. GREEN. Can you give us an idea of what kinds of things you are talking about?

Chairman MOORHEAD. Mr. Donnelly, would you identify yourself for purposes of the record?

Mr. DONNELLY. Richard E. Donnelly, Deputy Director for Production Resources, Department of Defense.

We have had experience in acquisition of weapons and equipment with extensive lead times, particularly in the heavy forging area, titanium, aluminum, steel forgings, and in some castings. There are many different causes for the lead time. Sometimes it is a—not enough capacity, sometimes it is just simply backlogs or financial problems.

We do have the capability, as Dr. Bement mentioned, to utilize the Defense Production Act.

Mr. GREEN. And essentially go to the front of the line at the producer of these castings?

Mr. DONNELLY. Up toward the front of the line, yes, sir.

Mr. GREEN. I would like to ask Dr. Davis, can you meet this schedule in the act of 500,000 barrels a day by 1987? Where are you going to dispose of the rest of it if DOD is only going to be taking 220,000 barrels?

Dr. DAVIS. We do believe that we can meet the 500,000 barrels by 1987 and even the 2 million by 1992 with the start we now have. I would not have been sure had we had to wait until the Synthetic Fuel Corporation became operational. We do believe we can.

Now, you asked where we would dispose of the materials? Fortunately, the kinds of product that would be developed under the interim DPA would be liquid fuels and the kind of fuel, such as diesel fuel that would be of equal use to the aviation industry, to the shipping industry, and to other transportation industries.

We also are working very hard in some of our other legislation in the Department of Energy to back out oil in every place that we can. Every place we have a requirement to back out oil, we can substitute these synfuels.

Mr. GREEN. I was wondering whether you or Dr. Bement would foresee an increase above that 220,000 barrel level beyond 1985?

In other words, you have told us where you are going to be in 1985. By 1987 or 1992, 1992, you anticipate any increase above that 220,000 barrel level in terms of DOD's utilization of synfuels?

Dr. BEMENT. I think there will be a steady increase in that ratio. There is bound to be some steady state. The rate of assimilation of synthetic fuels is bounded by technical considerations.

However, going back to your earlier question, I should point out that as a percentage of total peacetime petroleum requirements, the military—including the defense industrial base—only represents about 5 percent of the total demand.

We feel that since our need is primarily for mobility fuels—which will be the middle distillates—there will be fractions that will be available for gasoline. There also will be a major fraction that will be available to the electric utilities that need to back away from petroleum and can use synthetic residuals for utility operation.

That would certainly—if there were no other takers—account for the remainder of the production at that time.

Mr. GREEN. Thank you, Mr. Chairman.

Chairman MOORHEAD. Thank you, Mr. Green.

First, Dr. Bement, I think you have expressed something that I think is extremely important. That this bill, the first part of it, subpart (a) of title 1, is an amendment to the Defense Production Act.

Mr. Green was bringing that out. There are powers under that act which were in existence before this legislation and continue in existence and that you do have the power using that act to require contracts to be given a priority.

This is a, to me, very extremely important provision in the law which, properly used, can speed up the process tremendously.

Subpart (a) of title 1, the statement of managers, the heading is "Fast Start, Interim Synthetic Fuel Authorities." This is what the conferees meant.

We meant to use that thing as the fast start, and I want to reemphasize that this is what the Congress meant, and I think when the President signed the bill, that is what he meant. I hope that both agencies will take the words "fast start" to heart.

Dr. BEMENT. Well, we are certainly encouraged by your interest in that specific emphasis on the program.

Chairman **Moorhead**. The other thing is that after the Corporation is in existence, it does not—the DPA does not, in your words, Dr. Davis, on page 3, lapse.

It merely goes into standby. The time may come when the Corporation does not have the Defense Production Act powers to give priority to contracts; that this may have to be reactivated in some instances, which the act does provide for, so that we can, if we need to, go back to the Defense Production Act, if there are delays in getting valves, compressors, forgings, and the like.

I think that we all ought to recognize that that is an opportunity that we have.

Dr. Bement, on page 4 of your testimony, you describe the activities of the Defense Fuel Supply Agency saying that it manages a budget more than $6 billion for an average throughout of 460,000 barrels per day.

Then you say there is no corresponding capability in any other Government agency.

Is it your attitude, is it the attitude of Defense Supply, that you don't care about the origin of the fuel that is used to propel aircraft or ships or tanks; what you care about is the performance? Isn't that correct? You don't care whether it is synthetic or natural petroleum, if it does the job, isn't that correct?

Dr. **Bement**. That is correct.

Chairman **Moorhead**. So as far as DOD is concerned, Defense Supply, dealing with the 460,000 barrels per day, as far as they are concerned, they don't care whether it is natural petroleum or synthetic petroleum, if it does the job?

Dr. **Bement**. That is correct, or a blend of the two for that matter.

Chairman **Moorhead**. Or a blend?

Dr. **Bement**. On the other hand, there are specific physical and chemical characteristics and even some toxic characteristics of some of those derived products that have to be understood before we can quite go all the way to use them totally interchangeably.

Chairman **Moorhead**. But in your specifications you can say that the fuel has to do the following things: It has to have certain volatility, certain viscosity, whatever the heck you do, and if the fuel meets those specifications, you don't care whether it comes from coal or tar sands, do you?

Dr. **Bement**. That is correct, with reservations.

We are persuaded, based on the operational tests to date, that in terms of short-term performance, these synthetic fuels—at least the ones derived from shale—are almost interchangeable with petroleum crude.

On the other hand, there are possibly long-term effects that have to do with minor contamination, or minor constituents that can cause long-term degradation and can affect reliability of military equipment.

The longer range goals of the program are really to look at these durability issues. At the present time, in implementing the act, the specifications we intend to use are those we have traditionally used for petroleum-based products.

If we find at a later time, based on these longer term durability tests, that changes to those specifications need to be made, or some specific additives need to be put into the synthetic fuels in order to ameliorate the effects, then we will make those modifications at a later time. We are not slowing up the implementation of the program or the intent of the act in any way based upon specifications.

Chairman MOORHEAD. Isn't it true that U.S. Navy ships have stopped in South Africa and taken aboard synthetic fuel created by the Sasol plant?

Dr. BEMENT. Yes. The Navy has also operated marine diesel engines on oil developed from shale in order to qualify those powerplants for synthetic fuels. So there is some experience.

Chairman MOORHEAD. Dr. Davis, in Dr. Bement's testimony, alluded to by Mr. Blanchard, DOD could utilize approximately 170,000 barrels per day by 1984. Will DOE be able to let contracts that will produce 170,000 barrels per day by 1984?

Dr. DAVIS. Well, I would point out first of all, we could let contracts which do. Whether industry could meet the construction schedule or not, I think that is up to the proposals that are submitted by industry.

The letting of the contracts is incidental to industry being able to construct and get the financing for that kind of program.

We don't anticipate, for example, based on industry's input to us, that there will be anything but R. & D. sized modules and one-tenth or one-fifth sized modules before about 1983.

This type of module is up to 10,000 barrels a day. We are down at the R. & D. size right now. By "we" I mean industry.

By giving industry every kind of financial and procedural assistance that we can, industry thinks that full scale modules could come on line by 1984. Attempting to help them through, thanks to the way you handled the environmental aspects in S. 932, attempting to help them through the numerous barriers and wickets and brambles they have to go through in getting permitting licensing, leasing, and the like, industry is on an extremely fast track.

Chairman MOORHEAD. Mr. McKinney?

Mr. MCKINNEY. I am going to yield my time to Mr. Hinson since I have a feeling that we are going to be finished here shortly. I would just want to remind Dr. Davis and Dr. Bement to go back to their Departments and tell them that fast track—the dictionary definition we are looking at is "speedy, quick," not stuck in the mud going nowhere.

Mr. HINSON. I thank the gentleman.

Mr. Chairman, I am going to defer any comments I would make until a later time.

I did have a response I wanted to make to the statement of the gentleman from Texas, Mr. Paul, relating to the involvement of the private sector and indeed the fact of the private sector's involvement in the resolution of these problems. I think it does bear some correction of the record, but I think in the interests of time I will defer any further comment.

Chairman MOORHEAD. At this time I would like to go off the record.

[Discussion off the record.]

Chairman MOORHEAD. Dr. Davis, I would like to ask you about your timetable.

I am particularly concerned that at page 8 of your testimony you state "Negotiation time to produce commitments as appropriate by June 1981."

In my book this should be done before the end of December 1980. Is there any way that you can speed up your process? Is there anything we can do to help you in that speeding up of the timetable?

Dr. DAVIS. Yes, Mr. Chairman. I think we can speed up the timetable. It will require both a considerable burden to be placed on industry as well as on the Department of Energy and the Department of Defense. I would like to supply a detailed answer for the record, but I would say that I believe if industry can come in in a faster than normal response time, we could eliminate 1 month to 1½ months from the schedule.

If on the basis of the urgency of this, the evaluation phase by the Department of Energy were to be less comprehensive—and by that I mean a willingness on the part of everyone to accept mistakes that are done not malevolently or through cause but done in the urgency of getting synthetic fuels on line, I believe that DOE and DOD evaluation, which we would do together, could be speeded up and perhaps another month or so saved.

That would allow, I believe, the kind of first commitments to be made close to the time schedule that you have asked for.

I prefer not to be held to anything other than close to until we get back and take a look at it. My scrutiny over the last several days would indicate a 2 to 2½ month saving, if we could take this kind of an action with full understanding of Congress as to why we were doing it.

[The following information was submitted for the record by Dr. Davis:]

### ALTERNATIVE FUELS PRODUCTION PROGRAM IMPLEMENTATION SCHEDULE

Issue second round of feasibility studies and cooperative agreement solicitations, August 1, 1980.

Issue for comment draft solicitation for loan guarantees, price guarantees, and purchase commitments, mid-August 1980.

Issue final solicitation for loan guarantees, price guarantees, and purchase commitments, September 1980.

Close feasibility and cooperative agreement solicitation, late September 1980.

Close loan guarantees, price guarantees, and purchase commitments solicitation, late November 1980.

Announce selections for feasibility studies and cooperative agreements, December 1980.

Announce selections for loan guarantees, price guarantees, and purchase agreements, late March 1981.

Chairman MOORHEAD. I would say you have the full blessing of the chairman of this subcommittee and I believe all of the members of the subcommittee.

Mr. McKinney?

Mr. MCKINNEY. I would like to comment on that one point you made which is so important. We are not inventing the wheel here. We expect that you are going to make mistakes anyway.

I have to keep coming back as we did earlier to a comparison with the space program. When we decided we were in eminent peril because Russia was up there and we were not, we went full speed ahead. We made mistakes then, but we have made even more mistakes—if you look at the space shuttle program—with something that has been scrutinized, scrutinized, and scrutinized to death for years. We find out we can't keep tiles on it, and we may incinerate our astronauts coming back into the atmosphere.

Sure, we are going to make mistakes. In this case we are not even inventing. What we are saying is, there is a broad field of technology out there, let's get it going; we can move on from that stage.

I just want you to have this Congressman's opinion—for whatever it is worth—I am not going to pillory anybody for making a mistake. If I am right 49 percent of the time, I am a lucky man.

I am going to pillory somebody if we do not get something going.

Chairman **Moorhead**. I think the importance of this program to the security of the United States and our geopolitical position is far more important than meeting the deadline of getting a man on the Moon by a certain date. This is big stakes, it is immediate, it is international power politics, if you will.

It is the economy of the United States. I am advised that the Secretary of Energy said that every hour of delay costs us $10 million per hour.

Well, I can't do the computation in my head, but saving 2½ months times $10 million per hour would come to a considerable sum of money.

Dr. **Davis**. It would make him happy too, I can assure you.

Chairman **Moorhead**. I think that somebody has done the computation. For 2 months it is a saving of $1.440 billion. That is a considerable savings for 2 months.

I believe that you would have to make a real blooper of a mistake to cost us that much money. I don't think you will. You are dealing with known technologies for the most part.

I think I will take the unusual step of sending copies of this transcript to the Secretaries of Defense and Energy because I think that the main purpose of this hearing is to get a message through, and I suspect that the more important message is not to the two Secretaries, but to some of your troops that don't realize the real urgency of this problem and who are quite properly trying to dot every "i" and cross every "t." But, for heaven's sake, let's not let that kind of thing slow us down.

If we can just get this message that this is important to the United States of America, and that we have commitments, and that the world knows we are moving ahead, the sooner the better.

I want to compliment both of you. We gave you a little bit of a rough time today, but it was intentional to get a message not just to you, the both of you and your associates, I think, have the message, but to others.

I think that this hearing has accomplished that objective, at least the message has gone out. We just hope it is heeded when it is received.

Thank you very much. I suspect that we will want to have a hearing in September to again give you an opportunity to brag about your wonderful accomplishments that you will have achieved by that time.

I hope that that is the way it will be.

Dr. **Bement**. Thank you very much.

Dr. **Davis**. Thank you.

Chairman **Moorhead**. Thank you both very much for excellent testimony.

The subcommittee is now adjourned, subject to the call of the Chair.

[Whereupon, at 12 noon, the subcommittee was adjourned, subject to the call of the Chair.]

# DEFENSE PRODUCTION ACT AMENDMENTS OF THE ENERGY SECURITY ACT OF 1980

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## WEDNESDAY, OCTOBER 1, 1980

House of Representatives,
Subcommittee on Economic Stabilization,
Committee on Banking, Finance and Urban Affairs,
*Washington, D.C.*

The subcommittee met at 10:10 a.m. in room 2325, Rayburn House Office Building, Hon. William S. Moorhead (chairman of the subcommittee) presiding.

Present: Representatives Moorhead, Evans, McKinney, Green, and Paul.

Chairman **Moorhead**. The Subcommittee on Economic Stabilization will please come to order.

This hearing constitutes the second progress report by the Departments of Energy and Defense on implementation of the Defense Production Act amendments to create a synthetic fuels industry in the United States for the production of defense fuels. As you know, these amendments originated in this subcommittee and were made part of the Energy Security Act signed into law by the President on June 30.

I might say that these hearings come at a most ominous time. Iran and Iraq are engaged in a war which could potentially lead to a larger conflict endangering the very security of the United States and its Western allies.

If the current struggle should result in the closing of the narrow Strait of Hormuz, these would be some of the results: More than 50 percent of all OPEC oil exports would be cut off. I repeat, more than 50 percent.

If this source of petroleum was bottled up, Japan would lose 60 percent of its industrial energy supply and Western Europe would lose half of its supply. America would lose 2 million barrels a day, which supports 4.7-million jobs in this country. Some experts believe this would increase unemployment up to 15 percent.

I don't have to tell you that under these conditions, the Western industrial world would probably collapse, and, to a considerable degree, America would be indefensible in terms of a meaningful response.

Remember also that the United States has entered into international agreements which would require this country to share its oil if severe shortages developed among our allies. This would further exacerbate our problems.

Meanwhile, this country is leaning on some pretty thin reeds, namely, a virtually empty strategic petroleum reserve and a highly controversial gasoline rationing plan.

That is why this hearing today is so important. The program we are discussing today would give this country a much more viable national security insurance policy. It would provide not only the capability, but also over the near term, the capacity to produce substitute fuels for imported oil.

At our last hearing, I expressed—and I think all the other members joined me—the deep disappointment and irritation we felt over the lack of a sense of urgency in this program. I understand a number of steps have been taken since then to remedy that deficiency, so I will simply repeat only one of our major concerns.

That concern is simply this: Major contracts and commitments making it possible to build synthetic fuel plants must be in place before the end of this calendar year so that America can begin this awesome task as rapidly as possible. It is absolutely essential for our national security that we take advantage of the full construction season during 1981.

Mr. Green, do you have an opening statement?

Mr. GREEN. Thank you, Mr. Chairman. Mr. Chairman, we have all been frustrated by the foot-dragging that has delayed the implementation of the synfuels program. We in Congress took the lead to move synfuels from research to real-world production, as you pointed out, in the subcommittee hearing on July 30, 1980. We assumed that the administration had also taken that lead. We believe that there are existing technologies that could be put to work in this decade to reduce our dependence on OPEC oil.

After hearing Treasury Secretary Miller's comments on the synfuels program during the Banking Committee's General Oversight and Renegotiation Subcommittee hearing last Wednesday, I ha serious doubts about the administration's position on this. Th Secretary characterized the synfuels program as involving nev technology, and new skills, and indicated that the program was at the feasibility study stage.

Many of the technologies are not new. Distilling is an ancient American industry, and we cannot fuss with technology until the next century, as the Secretary suggested. As a result of Secretary Miller's testimony, I question the administration's commitment to our energy policy, at least the synfuels part of it, and I ask with your permission, Mr. Chairman, that Secretary Miller's statement be made part of the record of this hearing.

Chairman MOORHEAD. Without objection, it will be made part of the record.

[The statement of the Honorable G. William Miller, Secretary of the Treasury, referred to by Congressman Green, follows:]

September 24, 1980

# STATEMENT OF THE HONORABLE G. WILLIAM MILLER
# SECRETARY OF THE TREASURY
# BEFORE THE
# GENERAL OVERSIGHT AND RENEGOTIATION SUBCOMMITTEE
# OF THE
# HOUSE COMMITTEE ON BANKING, FINANCE, AND URBAN AFFAIRS

Mr. Chairman and Members of this distinguished Subcommittee:

Thank you for this opportunity to testify on H.R. 7902, a bill introduced by Chairman Minish to establish a National Development Bank. I welcome Congressional consideration of the national challenge to revitalize our economy and I want to commend Chairman Minish for introducing H.R. 7902, a valuable initiative in the needed discussion of the specific ways the Federal Government can help in the process. I know others in Congress, such as Congressman Moorhead, have demonstrated a keen interest in the issues surrounding a development bank and I wish to recognize their continuing efforts as well.

H.R. 7902 would grant a new National Development Bank broad powers to provide Federal financing assistance for:

- Establishment and expansion of businesses and industries;
- Public facilities for State and local governments; and
- Job training for unemployed and underemployed workers.

The goal of the legislation is to help achieve a full employment economy and the criteria for assistance in the Bill reflect this goal.

Administration's Record

As you know, the Administration has substantially increased the Federal government's support for economic development and job training programs for the purpose of providing permanent private sector jobs. And, in fact, in the last three and a half years, we have witnessed the creation of over 8 million new jobs.

In FY 1980, for example, overall funding for economic development programs will exceed $3.5 billion -- an increase of 70 percent since the President took office. This amount includes the Administration's new $675 million Urban Development Action Grant (UDAG) program, designed to stimulate private investment in distressed areas. In addition, the amount of funds to assist small business has almost doubled.

As you know, the Administration proposed expanding the Economic Development Administration's program to $1.7 billion in FY 1981 from $600 million in FY 1980. Last week a House Senate Conference stopped action on the proposal. The Administration remains committed to an expansion in economic development programs and we will continue to work with the Congress to achieve this goal.

The Administration has also worked to reinforce the link between job training and economic development. Federal funding for employment and training has expanded over $4 billion during the past 3-1/2 years to about $10.4 billion in FY 1980. This expansion includes spending for basic and vocational education, for CETA programs to prepare the disadvantaged for jobs, and for other CETA programs.

In addition, FY 1980 spending, including training and relocation for workers affected by imports, has increased to about $1 billion under the Trade Adjustment Assistance Program.

Finally, as I know you are aware, the Administration's $2 billion youth initiative, H.R. 6711, has passed the House and is expected to be favorably reported by the Senate Committee later this week. This program would expand the eligibility for, and range of education services and employment training provided to, youths that are economically disadvantaged or have substantial difficulty in obtaining or holding jobs.

## The President's Economic Revitalization Program

Neverthless, the speed and scale of economic change requires that we do more. Recognizing this, the President last month announced a comprehensive economic revitalization program to expand our economic resources and enable American workers to participate in the renewal of our industrial might.

The President's program addresses the complex and interrelated problems facing American industry and provides specific recommendations to help solve these problems. The program is designed to stimulate new private and public sector investment to create more private sector jobs. Like H.R. 7902, the President's program recognizes the Federal government's responsibility to assist in training and retraining Americans to help them participate in our economic renewal.

Among the proposals contained in the President's economic revitalization program are initiatives to assist people and communities suffering the effects of economic dislocation, proposals to increase public investment, and an increase in revenue sharing targeted to assist distressed areas during their economic transition.

To assist in the training, retraining, and education of Americans, the program's proposals include:

1. Demonstration projects to look at new ways to retrain and relocate displaced workers;
2. Broadening the Trade Adjustment Assistance Program to supplier industries; and
3. A 13 week extension of unemployment benefits for workers suffering continued unemployment.

To help communities adjust to the trauma of economic change, the President is seeking:

1. An increase in the economic development program level of $1 billion in 1981 and an additional $2 billion in 1982 beyond the level requested in the Administration's EDA proposal;

2. Substantial additional public investment in all areas of transportation, including increased funding for highways, mass transit, airports, railroads, and port facilities;

3. A special targeted investment tax credit, in addition to the regular 10 percent investment credit, for business projects in localities with high unemployment; and

4. Enactment of a $1 billion countercyclical revenue sharing program for FY 1981 targeted to economically distressed areas.

## The Economic Revitalization Board

A key element of the President's program is the Economic Revitalization Board The Board will consist of members from industry, labor and the public, and will be co-chaired by Mr. Irving Shapiro, Chairman of E.I. DuPont, and Mr. Lane Kirkland President of the AFL/CIO. The creation of this group represents a major step towards the cooperative effort we want to foster between business, labor, the public and government. We must all work together to develop institutions and approaches to deal with the fundamental economic challenges facing our society.

The President has asked this Board, as its priority item, to address the creation of an industrial development authority and to provide us its judgment on the issues that the Administration as well as the Congress has been looking at over the last several years. The fundamental ideas behind such a new authority are, I believe, reflected in H.R. 7902.

The President has asked the Board, in the context of the present economic environment and the President's program, to develop recommendations regarding the mission of the authority the criteria it would employ in providing assistance ways it could coordinate economic development, manpower and urban initiatives and thus maximize the impact of existing public programs and stimulate additional private investment, and methods to increase local economic development capacity and promote regional development programs.

In addition to issues surrounding the establishment of an industrial development authority, the President will ask the Board to recommend ways to improve the skills of American workers, methods to deal with the impact of industrial dislocation on workers and communities and how to accomplish the social goals of regulation while minimizing compliance costs and maximizing productivity.

We believe that this Board, with its distinguished membership, working with the Administration and Congress, can help us develop the direction in which we should move.

Thus, while we support the intent of H.R. 7902, we believe that the Subcommittee and the Administration would benefit from having the views of the Economic Revitalization Board before taking Congressional action on the Bill. I look forward to appearing before Congress after the Board has presented its recommendations to the President.

Mr. Chairman, I would be pleased to answer any questions.

Chairman **Moorhead**. I might say that I believe the witnesses we are going to hear from today will be the actual managers of this program, and have a different view, and I think you know from hearing from Dr. Ruth Davis, who has been with us since the beginning, and Dr. Arden Bement, who is with us, and working more recently, but still for a considerable length of time—these are two members of this administration who are going to push ahead.

And the jurisdiction of the Treasury, I think, will be discussed, I think, in the matter of loan guarantees, and the time of issuance with respect to the bond market. That does give the Treasury an input, but Treasury will not be managing this program. These witnesses before us today will be followed by, of course, the Synthetic Fuels Corporation.

Mr. **Green**. Well, I certainly hope that Secretary Miller's attitude was not the attitude that is going to characterize this program.

Chairman **Moorhead**. The subcommittee is very pleased to have Dr. Davis and Dr. Bement. Dr. Davis is Assistant Secretary for Resources Application of the Department of Energy, but formerly of the Department of Defense; and Dr. Arden L. Bement, Deputy Under Secretary for Research and Advanced Technology of the Department of Defense.

As I say, we welcome you, particularly, Dr. Davis, because you were in on the beginning with this subcommittee. And Dr. Bement, you have always been of great help to us. So why don't we start with Dr. Davis, and then Dr. Bement, and then we will have questions from the subcommittee members.

Dr. Davis.

## STATEMENT OF DR. RUTH M. DAVIS, ASSISTANT SECRETARY FOR RESOURCE APPLICATIONS, DEPARTMENT OF ENERGY, ACCOMPANIED BY LT. COMDR. LARRY A. LUKENS, DEPUTY ASSISTANT SECRETARY FOR INDUSTRIAL PLANNING AND DEVELOPMENT

Dr. DAVIS. Thank you, Mr. Chairman. I have a statement that I would like to submit for the record, with your permission.

Chairman MOORHEAD. Without objection, the entire statement will be made a part of the record.

Dr. DAVIS. I would like to make just a few summary comments from that statement, but first let me state that I am accompanied by Commander Lukens, who acts as my Deputy Assistant Secretary for Industrial Planning and Development.

I would like to start off by summarizing the actions that the Department of Energy has taken since the last hearing you had, on July 30, and these actions have been taken as appropriate in conjunction with the Department of Defense.

Very briefly, and in chronological order, we did issue draft solicitations for purchase commitments, price guarantees, and loan guarantees under both the Interim Defense Production Act and the Federal Nonnuclear Research and Development Act authorities. We did that on August 26, for public comment. And as you know, we held a presolicitation conference here in Washington on September 8. At that time, we invited members of the public and industry to offer their comments.

I will expand a bit on these public comments and the extent to which they affected our final solicitation in just a few moments.

This past weekend, the President signed the Executive order which contains the required delegations of authority for both DOE and the DOD to execute the interim DPA program.

Chairman MOORHEAD. Do you have a copy of the Executive order with you? I think that should be made a part of the record when it is available.

Dr. DAVIS. The majority of it is in my statement. It is to be released, I believe, upon formal signature of the President, which occurred yesterday, but the majority of it is in my statement word for word.

Chairman MOORHEAD. But when it is released, could you supply us a copy?

Dr. DAVIS. Certainly.

Chairman MOORHEAD. I think without objection it should be made a part of the record, even though having read your statement, I know you will give us the full description of it.

[The referred-to Executive order follows:]

# Presidential Documents

**Executive Order 12242 of September 30, 1980**

## Synthetic Fuels

By the authority vested in me as President by Sections 305 and 703(a) of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2095, and 2153(a)), and Section 301 of Title 3 of the United States Code, and in order to achieve production of synthetic fuel to meet national defense needs and to provide for an orderly transition of synthetic fuel responsibilities to the United States Synthetic Fuels Corporation, it is hereby ordered as follows:

1-101. The functions vested in the President by Sections 305(f)(1) and 305(f)(2) of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2095(f)(1) and (2)) are delegated to the Secretary of Defense.

1-102. The Secretary of Defense shall, after consulting with the Secretary of Energy, determine the quantity and quality of synthetic fuel which is needed to meet national defense needs from time to time. This determination shall be made in accord with Section 305(f)(1) of the Defense Production Act of 1950, as amended, and shall promptly be furnished to the Secretary of Energy.

1-103. In accord with Section 305(f)(1) of the Defense Production Act of 1950, as amended, the Secretary of Defense shall ensure that his determination of the national defense needs for synthetic fuel does not include any synthetic fuel which the Secretary anticipates will be resold by the Government.

1-104. The functions vested in the President by subsections (b)(1)(A)(i) and (ii), (c)(1)(B), (c)(3), (d)(2), (d)(3), (d)(5), (d)(6), (e), and (g)(2)(C) of Section 305 of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2095), are delegated to the Secretary of Energy.

1-105. The Secretary of Energy, to the extent practicable, shall apply laws regarding the procurement of goods and services by the Government to the terms and conditions contained in purchase contracts awarded under subsection (b)(1)(A)(i) of Section 305 of the Defense Production Act of 1950, as amended. The terms and conditions of these contracts shall be subject to the concurrence of the Secretary of Defense.

1-106. The Secretary of Energy shall, after consulting with the Secretary of Defense, exercise the functions delegated to him under Section 305 of the Defense Production Act of 1950, as amended, in order to meet the national defense needs for synthetic fuel as determined by the Secretary of Defense.

1-107. The Secretary of Energy shall exercise the functions delegated to him under Section 305 of the Defense Production Act of 1950, as amended, in a manner consistent with an orderly transition to the separate authorities established pursuant to the United States Synthetic Fuels Corporation Act of 1980, as provided by Section 305(a)(1)(B)(iii) of the Defense Production Act of 1950, as amended.

1-108. The Secretary of Energy, after consulting with the Secretary of Defense, shall prepare for the President's transmittal to the Congress the report required by Section 106 of the Energy Security Act (Public Law 96-294). The proposed report shall be submitted to the President for his consideration no later than thirty days prior to the date on which it is to be transmitted to the Congress.

1-109. No new awards for purchases or commitments for financial assistance shall be made under the provisions of this Order after the date on which the President determines that the United States Synthetic Fuels Corporation is established and fully operational. That determination is to be made in accord with Section 305(k) of the Defense Production Act of 1950, as amended (50 U.S.C. App 2095(k)), and in accord with the appropriations to the Departments of Energy and the Treasury pursuant to the Supplemental Appropriations and Rescission Act, 1980 (P.L. 96-304; 94 Stat. 857, 880-882).

1-110. No award for a purchase or commitment for financial assistance shall be made which would preclude projects or actions initiated by the Secretary of Energy under the provisions of this Order from being transferable to the United States Synthetic Fuels Corporation.

1-111. Prior to issuing any loan guarantee under the provisions of this Order, the Secretary of Energy shall obtain the concurrence of the Secretary of the Treasury with respect to the timing, interest rate, and substantial terms and conditions of such loan guarantee. In establishing an interest rate, the current average yield on outstanding marketable obligations of the United States with comparable remaining periods of maturity shall be considered. To the extent practicable, the timing, interest rate, and substantial terms and conditions of such guarantees shall have the minimum possible impact on the capital markets of the United States, taking into account other Federal direct and indirect securities activities.

Jimmy Carter

THE WHITE HOUSE,
*September 30, 1980.*

[FR Doc. 80-30836
Filed 9-30-80; 3:01 pm]
Billing code 3195-01-M

Dr. Davis. The last action that I would report on is that we do plan to issue the two solicitations that I mentioned for the $3 billion of financial assistance in final form on October 6, which is next Monday.

Chairman Moorhead. Would you repeat that again?

Dr. Davis. We plan to issue in final form the two solicitations, which have been available to you in draft form next Monday.

I am very pleased in this regard to report that we have had very close cooperation between the Department of Energy and the Department of Defense in the drafting of both the Executive order and in the solicitations, and I would point out that the Department of Treasury has been particularly helpful during the solicitation drafting effort, and has, I think, made a tremendous amount of help available to us to get this alternative fuels or synthetic fuels program underway.

I would like to, if I may now, just comment briefly on what I would call the Defense Production Act solicitation, and point out, as the subcommittee well knows, that it makes available essentially three kinds of financial assistance: First of all, contracts for purchases, or commitments to purchase, synthetic fuels; second, price guarantees, indirectly through purchase commitments; and third, loan guarantees for financing the construction of synthetic fuel plants, where these loan guarantees are issued in conjunction with contracts to supply synthetic fuels to the Government.

In issuing this solicitation, we recognize at DOE that, in light of the $3 billion available in comparison to the financial requirements of constructing full commercial scale synthetic fuel production facilities, we would be able to fund but a relatively few of the worthwhile projects. For this reason, and in recognition of the required expeditious nature of this interim DPA program, it is our intent to seek those projects that are able or prepared to start construction rapidly; to use your phrase, Mr. Chairman, to seek any that are able to make use of the present construction season.

To qualify under our solicitation, therefore, will require that a proposed synthetic fuel project be highly advanced, and to have already had the benefit of a significant level of commitment in both time and dollars on the part of the project sponsors; and that, in order to insure this, we have had our qualification criteria carefully designed for this purpose.

I would point out, at the same time, that the proposals received by DOE in response to this solicitation are to be considered as responses to a solicitation of the Synthetic Fuels Corporation to the extent that the proposed projects meet the eligibility requirement for funding by that Corporation. This latter clause, I believe, could well prompt the submission of a greater number of proposals than the $3-billion solicitation by itself would otherwise attract.

Very briefly, the key features of this solicitation from my point of view are: First of all, the high priority that it places on the production of the synthetic fuels for defense needs. It is unique at this time in that regard. And DOD has, in turn, placed its highest priority on the production of liquid mobility fuels, primarily in the middle-distillate range.

The second key feature of the solicitation is its flexibility. I mean flexibility in the sense that the proposals are not constrained to choose one of the available incentives, but can—and in fact we encourage them to—choose that combination of available incentives that best serves their financial needs.

This flexible approach is intended to stimulate what both this subcommittee and DOE, along with DOD, want to have happen. This is, namely, a more innovative approach to synthetic fuel project financing and the ability to tailor incentive packages to serve the financial needs of each individual project, while at the same time minimizing the Government's total financial exposure relative to the product output.

I did promise initially, Mr. Chairman, that I would discuss the comments that we received on our draft Defense Production Act solicitation and what their effect was on the final solicitation.

I would just point out again that a presolicitation conference was held on September 8, and I really would like to take this opportunity, Mr. Chairman, to express my deep appreciation for your appearance at that conference. There is no doubt in my mind that your presence and participation not only was warmly received, but contributed immeasurably to setting a constructive forum for all the participants. I think your statements were particularly noteworthy—although not praiseworthy of our efforts, but noteworthy and important that the amount of information that was required in the draft solicitation goes far beyond what is required by the law, and intends, therefore, to puncture the sense of urgency that we all recognize is needed to strengthen our national security.

As you pointed out, it should be altogether possible to telescope or expedite not only response times, but also the making of commitments and of contract awards.

In addition to your comments in that regard, we received a number of comments from the private sector, and they commented primarily on the program execution schedule and on the nature of the information required, and the proposals submitted.

I will briefly summarize those comments, and the way that we have taken to resolve them, in my next set of comments. The original draft solicitation provided for a period of 75 days under which proposals could be submitted. Industry's response to this timing was clearly divided between those who thought it did not provide sufficient time and those who felt that the schedule could and should be compressed.

Given those opposing private sector viewpoints on the one hand, and the clear intent of Congress, as you well expressed it, on the other hand, to achieve maximum synthetic fuel production for defense needs at the earliest time practicable, we have changed the originally proposed 75-day response time to a 30-day response time.

This means that the industry now has the onus for responding, and for assuring us that there are companies out there, as we have been led to believe, that are able to respond in that time period and can indeed contribute to the national goal by getting synthetic fuel production on line very soon.

If, subsequent to our initial review of the proposals that are received during this 30-day time frame, we determine that the full amount of the $3 billion available is not likely to be awarded, we will reissue the solicitation and accept additional proposals for consideration for award.

So I do feel—and I am very pleased to be able to say—that in light of your comments, my own desire and the desire of the Secretary, and in light of the split comments by industry, we have attempted to satisfy both the fast starters and the slow risers, by giving 30-day response times to those that can so respond, and by simultaneously recognizing that those who are what I would call the slow risers do need to have the knowledge that if we do not spend the $3 billion on the first set of proposals, we do intend to immediately resolicit.

Now, like the timing issue, the industry's comments on the extent and nature of the information required was clearly divided. Based on their comments, and on yours, I directed my staff to make an independent reassessment of the information requirements set forth in the draft solicitation. Moreover, I personally sought further comments from respected representatives of both the financial and investment community, as well as the industrial community, regarding the criticality of these requirements to support responsible investment decisions on the part of the Government.

The results of these additional efforts substantiated that, on balance, the information requirements are entirely appropriate, reasonable, and representative of what the private sector typically requires in their transactions.

In particular note of the fact that these projects will be the first of a kind projects, and in note of the capital expenditures that will be involved in these kinds of projects, I have concluded that the level of information reflected in the draft solicitation, as we are now specifying it in the final solicitation, is either essential or highly beneficial.

I would add that my staff has made a conscientious effort to reduce the burden on potential proposers to the extent practicable by not requiring the submission of information either in terms of quantity or format, in addition to that industry would make typically available.

Two examples of existing information that we would require are a project EIS or EIA, that they would have to have had anyway, and certain financial documents, such as the section 10.K reports, that are required of any industry project of this kind. We have indicated that existing documents of this nature do not need to be modified for purposes of our proposal.

So, we have attempted to make it easier for proposals to respond and we have additionally supplied standardized forms to accommodate the ease in submission of the major portions of this required information.

I would, in summary, then, continue to reiterate my statements of previous hearings; namely that I am personally committed, and the Secretary has indicated that we should make you aware that he is also personally committed, to execute this critically important program in the shortest time practicable.

I think to do otherwise would represent a choice to ignore its singular importance to the Nation, particularly given the most recent events in the Middle East, which represent to our national well-being a very severe threat—one that is even greater than that to which you and the members of this subcommittee responded in such a responsible manner over 1 year ago.

I can assure you, then, Mr. Chairman, that my staff has, and will continue, to devote their untiring efforts to the successful execution of what I am more and more convinced is this monumental and unprecedented undertaking for the entire Federal Government, and it is only through the continued support and backing of this subcommittee that I feel an assurance that we will indeed be able to make this program a reality.

Thank you very much, Mr. Chairman.

[Dr. Davis' prepared statement follows:]

# STATEMENT ON THE DOE TRANSITIONAL ALTERNATIVE FUELS PRODUCTION PROGRAM

BY

DR. RUTH M. DAVIS
ASSISTANT SECRETARY FOR RESOURCE APPLICATIONS
DEPARTMENT OF ENERGY

BEFORE THE

SUBCOMMITTEE
ON ECONOMIC STABILIZATION

OF THE

COMMITTEE ON BANKING,
FINANCE AND URBAN AFFAIRS

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES
96TH CONGRESS, SECOND SESSION

OCTOBER 1, 1980

STATEMENT OF
RUTH M. DAVIS
ASSISTANT SECRETARY
RESOURCE APPLICATIONS
U.S. DEPARTMENT OF ENERGY

BEFORE THE

SUBCOMMITTEE ON ECONOMIC STABILIZATION
COMMITTEE ON BANKING, FINANCE AND URBAN AFFAIRS
U.S. HOUSE OF REPRESENTATIONS

October 1, 1980

Mr. Chairman and Members of the Subcommittee: I am once again pleased to have an opportunity to discuss the actions the Department of Energy is taking to implement the Alternative Fuels Production Program authorized in the Energy Security Act (Public Law 96-294). As you know, $3 billion has been appropriated for execution of the interim Defense Production Act (DPA) authorities contained in Part A, Title I of the Act. In accordance with the request in your letter of August 29, 1980, I shall concentrate on the progress we have made since your last oversight hearing on July 30, 1980. I am accompanied today by Lieutenant Commander Larry A. Lukens, Deputy Assistant Secretary for Industrial Planning and Development.

## I. COMMENTS ON THE INTERIM DPA AUTHORITY IN THE CONTEXT OF DOE'S TRANSITIONAL ALTERNATIVE FUELS PRODUCTION PROGRAM

As I emphasized in my July 30, 1980 statement before this Subcommittee, the interim DPA financial assistance program is being managed as an integral component of DOE's overall Alternative Fuels Production Program. As I further emphasized at that time, the distinct purpose and nature of the interim DPA program is being preserved with the high priority it gives to liquid mobility fuels for national defense needs.

In addition, a principal objective of DOE in its transitional alternative fuels management responsibilities is to assure a smooth and most practicable and expeditious transfer of projects and activities to the Synthetic Fuels Corporation (SFC), as provided for in both the Energy Security Act and in the Fiscal Year 1980 Supplemental Appropriations and Rescission Act (Public Law 96-304).

In sum, DOE's major thrusts and activities in this area continue to be directed toward:

a. Maintaining the momentum previously established in the execution of Public Law 96-126;

b. Accelerating the near term development of a domestic industrial synthetic fuels capacity, with major emphasis on satisfying national defense requirements; and toward

c. Providing for an uninterrupted continuum of Government and private sector activity in the development of a national synthetic fuels production capacity, through the transfer of on-going programs to the SFC as soon as practicable.

## II. ACTIONS COMPLETED IN EXECUTING THE ALTERNATIVE FUELS PRODUCTION PROGRAM

While DOE is nearing completion of the issuance of the 110 awards selected from the first round of Feasibility Study and Cooperative Agreement solicitations, the second round of solicitations, offering an additional $300 million, was issued on July 30, 1980. These solicitations for additional Feasibility Study Grants and Cooperative Agreements closed on September 30, 1980, with final selections intended for early December. While we have yet to complete our count of these proposals submitted in response to this second round of solicitations, it appears, both in terms of total numbers and the distribution among the eligible technologies, to be quite similar to the response to the first round.

In parallel with this activity, we expect to formally issue solicitations for purchase commitments, price guarantees, and loan guarantees under both the interim DPA and the Federal Nonnuclear Research and Development Act (NNA) authorities in the next few days. These two solicitations (one each for the DPA and NNA programs) provide for the $5 billion appropriated by Public Laws 96-126 and 96-304; $3 billion of which was appropriated for the interim DPA authorities under Public Law 96-294.

These two solicitations were previously issued in draft form on August 26, 1980 for public comment. As you know, a presolicitation conference was held here in Washington on September 8, 1980, at which time members of the public and industry offered comments on these draft solicitations. I will expand upon these public comments and the extent to which they affected the final DPA solicitation in the section to follow.

This past weekend, the President signed the Executive Order which contains the required delegations of authority for both DOE and DOD to fully execute the interim DPA program. It further provides for a clear delineation of the relative roles and responsibilities of DOE and DOD, including DOD having unilateral responsibility for specifying the defense needs for the synthetic fuels to be acquired under the DPA program and DOE having the overall lead responsibility for carrying out the remaining provisions of the interim DPA authorities contained in the Energy Security Act.

More specifically this Executive Order provides that:

- The functions vested in the President by Sections 305(f)(1) and 305(f)(2) of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2095(f)(1) and (2)), are delegated to the Secretary of Defense.
- The Secretary of Defense shall, after consulting with the Secretary of Energy, determine the quantity and quality of synthetic fuel which is needed to meet national defense needs from time to time. This determination shall be made in accord with Section 305(f)(1) of the Defense Production Act of 1950, as amended, and shall promptly be furnished to the Secretary of Energy.
- In accord with Section 305(f)(1) of the Defense Production Act of 1950, as amended, the Secretary of Defense shall ensure that his determination of the national defense needs for synthetic fuel does not include any synthetic fuel which the Secretary anticipates will be resold by the Government.
- The functions vested in the President by subsections (b)(1)(A)(i) and (ii), (c)(3),(d)(2),(d)(3), (d)(5), (d)(6), (e), and (g)(2)(C) of Section 305 of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2095), are delegated to the Secretary of Energy.
- The Secretary of Energy, to the extent practicable, shall apply laws regarding the procurement of goods and services by the Government to the terms and conditions contained in purchase contracts awarded under subsection (b)(1)(A)(i) of Section 305 of the Defense Production Act of 1950, as amended. The terms and conditions of these contracts shall be subject to the concurrence of the Secretary of Defense.

- The Secretary of Energy shall, after consulting with the Secretary of Defense, exercise the functions delegated to him under Section 305 of the Defense Production Act of 1950, as amended, in order to meet the national defense needs for synthetic fuel as determined by the Secretary of Defense.
- No new awards for purchases or commitments for financial assistance shall be made under the provisions of this Order after the date on which the President determines that the United States Synthetic Fuels Corporation is established and fully operational. That determination is to be made in accord with Section 305(k) of the Defense Production Act of 1950, as amended (50 U.S.C. App. 2095(k)), and in accord with the appropriations to the Departments of Energy and the Treasury pursuant to the Supplemental Appropriations and Rescission Act, 1980 (P.L. 96-304; 94 Stat. 857, 880-882).
- No award for a purchase or commitment for financial assistance shall be made which would preclude projects or actions initiated by the Secretary of Energy under the provisions of this Order from being transferrable to the United States Synthetic Fuels Corporation.
- Prior to issuing any loan guaranteee under the provisions of this Order, the Secretary of Energy shall obtain the concurrence of the Secretary of the Treasury with respect to the timing, interest rate, and substantial terms and conditions of such loan guarantee. In establishing an interest rate, the current average yield on outstanding marketable obligations of the United States with comparable remaining periods of maturity shall be considered. To the extent practicable, the timing,

interest rate, and substantial terms and conditions of such guarantees shall have the minimum possible impact on the capital markets of the United States, taking into account other Federal direct and indirect securities activities.

I am pleased to report that the close cooperation between DOE and DOD that was evident in the initial states of drafting the Executive Order and the solicitation for the interim DPA program, as continued. I might also point out that the Department of Treasury was particularly helpful during the solicitation drafting effort, and I look forward to their continued involvement in the Alternative Fuels Production Program.

## III. DPA SOLICITATION FOR PROPOSALS FOR FINANCIAL ASSISTANCE FOR THE DEVELOPMENT OF SYNTHETIC FUELS

### A. Scope and Purpose

The DPA solicitation is for the expressed purpose of inviting interested parties to submit proposals for financial assistance to expedite the commercial production of synthetic fuels for national defense needs. Pursuant to the authorities set forth in the interim DPA provisions under Public Law 96-294, this solicitation makes available the $3 billion appropriated by Public Law 96-304 for:

1. Contracts for purchases of, or commitments to purchase, for synthetic fuels for Government use for defense needs;
2. Price guarantees, indirectly through purchase commitments where the Government exercises the right to refuse delivery of a synthetic fuel and pays an amount by which the contract price exceeds the prevailing market price; and for
3. Loan guarantees to finance the construction of synthetic fuel production facilities and to be issued in conjunction with contracts to supply synthetic fuels for Government use for defense needs.

In addition, advance payments made in conjunction with purchase commitments are permissible under the interim DPA program, provided that either construction of the synthetic fuel project has begun or it has been determined that all conditions precedent to construction have been met.

The basic intent in structuring the scope of the DPA solicitation was to expedite the construction and operation of commercial scale facilities for the production of synthetic fuels for national defense needs at the earliest time practicable and in a manner consistent with commercial practices.

In issuing this solicitation, DOE recognizes that, in view of the $3 billion available in comparison to the financial requirements of constructing full commercial-scale synthetic fuel production facilities, we will be able to fund but a relatively few number of worthwhile projects. For this reason, and in recognition of the intended expeditious nature of the interim DPA program, it is our intent to seek those projects that are able or prepared to start construction quickly. To qualify under this solicitation, therefore, will require that a proposed synthetic fuel project be highly advanced and to have had the benefit of a significant level of commitment, in both time and dollars, on the part of the project sponsors prior to seeking Federal financial assistance under this solicitation. The qualification criteria set forth in the DPA solicitation have been carefully designed for this purpose.

I should also point out, however, that Public Law 96-304 provides that proposals received by DOE in response to the DPA solicitation shall be considered as responses to a solicitation of the U.S. Synthetic Fuels Corporation to the extent that the proposed projects meet the eligibility criteria for funding by the Corporation. This feature, along with a similar provision for the transfer of actual projects funded by DOE under the interim program, could well prompt the submission of a greater number of proposals than the $3 billion alone would otherwise attract.

## B. Key Features of the DPA Solicitation

In keeping with the Congressional declaration of policy as stated in the Energy Security Act to:

> ". . . insure the national defense preparedness which is essential to national security, it is (also) necessary and appropriate to assure domestic energy supplies for national defense needs . . ."

The predominant feature of the DPA solicitation is the high priority placed on the production of synthetic fuels for defense needs. These needs, which are set forth in the solicitation in the manner prescribed by DOD, in turn place the highest priority on the production of liquid mobility fuels, primarily in the middle distillate range.

This, the most predominant feature of the DPA solicitation, is intended to serve the legislative requirement of the interim DPA program that the synthetic fuels to be acquired are needed to meet national defense needs and that it is not anticipated that such synthetic fuels will be resold by the Government.

While at the same time targeting on the production of defense mobility fuels, the solicitation recognizes and provides for projects that need not propose that all of the products and/or by-products be intended for sale to the DOD. This feature is intended to allow for consideration of projects which are designed to suit the maximum potential of the technology used, within the context of sound engineering, economic, and commercial practice. This could include, for example, projects where the production of synthetic fuels is accomplished from refinery blends of synthetic and conventional crude oils.

A second key feature of the DPA solicitation is flexibility - flexibility in that proposers are not constrained to choose one of the available incentives, but can, and in fact are encouraged to, choose that combination of the available incentives which best serves the financial needs of the proposed project. The use of advance payments or loan guarantees in conjunction with a purchase commitment contract, where their use can be a determining factor in the decision to immediately proceed with the construction of the project, are examples of incentive combinations permitted under this solicitation. This flexible approach is intended to stimulate a more innovative approach to synthetic fuel project financing and to permit tailoring an incentive package that best serves the financial needs of the project while minimizing the Government's total financial exposure relative to the level of product output.

Key features of the DPA solicitation include:

- The right for the Government to refuse delivery of the synthetic fuel contracted for and to pay the difference by which the contract price exceeds the prevailing market price for such synthetic fuel. While this right of refusal feature in essence provides for price guarantees, it serves a somewhat counter objective to that of ensuring that the synthetic fuels to be acquired are intended for defense use and not intended to be resold.
- A minimum liquid production threshold of 10,000 barrels per day and a maximum level of crude oil equivalent of synthetic fuel of 100,000 barrels per day, per project.

- Loan guarantees, in addition to their availability to the actual synthetic fuel project, are also available to persons who are participating in a synthetic fuels project as the manufacturer or fabricator of components for the project.

## IV. PUBLIC COMMENTS ON DRAFT DPA SOLICITATION AND THEIR AFFECT ON FINAL SOLICITATON

As I mentioned previously, the DPA solicitation was issued in draft form on August 26, 1980, and a presolicitation conference was held on September 8, 1980, both of which were for the purpose of receiving public comments on our proposed approach for executing the interim DPA (and NNA) program. We issued approximately 6,000 copies of the draft solicitation, and approximately 200 industry representatives attended the presolicitation conference.

Mr. Chairman, I want to take this opportunity to express my deep appreciation for your appearance at the presolicitation conference - your presence and participation at the conference was warmly received and contributed immeasurably to setting a constructive forum for the participants. Particularly noteworthy were your statements that "the amount of information (required in the draft solicitation) goes far beyond what is required by the law and it tends to puncture the sense of urgency we all recognize is needed to strengthen our national security," and that "it (should) be altogether possible to telescope or expedite not only response times but also the making of commitments and contract awards."

In addition to your comments, Mr. Chairman, we received a significant number of comments on the draft solicitation from the private sector participants, the major portions of which also related to the proposed program execution schedule and the extent and nature of the information required in proposal submissions. These two major solicitation issues and the means by which they have been resolved are discussed below.

### A. Program Execution Schedule

The original draft solicitation provided for a period of 75 days within which proposals seeking financial assistance under the DPA program must be submitted. Industry's response to this timing provision was clearly divided between those who argued that it did not provide sufficient time to prepare and submit proposals containing the information called for and those who argued that the schedule could, and should in fact, be compressed so as not to incur even further delays for those projects that are prepared to immediately undertake construction of full-scale commercial facilities.

Given these opposing private sector viewpoints on the one hand and given the clear intent of the Congress to achieve maximum synthetic fuels production for defense needs at the earliest time practicable on the other, we have changed the originally proposed 75-day response time to a 30-day response time. If, subsequent to our initial review of proposals received during the 30-day time frame, it is determined that the full amount of the $3 billion available is not likely to be awarded, we will reissue the solicitation and accept additional proposals for consideration for award.

While this accelerated schedule clearly places the onus on industry to respond with unprecedented speed, we feel that the 30-day response time is, nonetheless, entirely consistent with and responsive to the often stated Congressional intent to execute the interim DPA program with the greatest sense of urgency.

## B. Proposal Information Requirements

Not unlike the timing issue, industry's comments on the extent and nature of the information required in proposal submissions was also clearly divided. There were those who argued that the level of information being required, both in terms of quantity and detail, was far in excess of that which is readily obtainable within the time allotted and, in any event, was in excess of that required for the Government to act responsibly in making financial assistance awards. In contrast, there were those who argued that such information requirements were totally consistent with private investment and lending practices and should, in fact, already be available to the mature project ready to immediately undertake full-scale construction.

Based on these and your comments, Mr. Chairman, I directed my staff in Resource Applications to undertake an internal and independent reassessment of the information requirements as set forth in the draft solicitation and I personally sought further comments from respected representatives from the private industrial and investment communities regarding the criticality of these requirements to support responsible investment decisions. The results of these additional efforts clearly substantiated that, on balance, the information requirements are entirely appropriate, reasonable and representative of what the private sector typically requires in their transactions, particularly for ventures of the capital magnitude and first-of-a-kind nature of those being contemplated.

Accordingly, I have concluded that the level of information reflected in the draft solicitation and as it is now specified in the final solicitation is either essential or highly beneficial if we are to assure that:

- The proposed synthetic fuel project will produce the synthetic fuels for defense needs in the quantities and at the time proposed;
- The project costs are reasonable;
- All risk elements have been assessed and are acceptable to the Government;
- The project sponsors can fulfill and maintain their proposed commitment to the proposed project for the life of the project; and that
- The liability to the Government is determined and is acceptable to the Government.

I would add in this regard, however, that RA has made a conscientious effort to reduce the burden on potential proposers to the extent practicable by not requiring the submission of information, both in terms of quantity and format, in addition to that typically available. Examples of existing information include a project EIS or EIA and certain financial documents such as the SEC 10.K reports, which need not be modified for purposes of proposal support. In addition, the solicitation contains standardized forms to accommodate ease in submission of the major portions of the required information.

## V. CONCLUDING COMMENTS

Mr. Chairman, as you and the Members of this Subcommittee are well aware, and as I stressed in my July testimony before you, I am strongly committed to execute this critically important program in the shortest time practicable. To do otherwise would represent a choice to ignore its single importance to the Nation, particularly given the most recent events in the Middle East - events which represent an even more serious threat to our national well-being than those to which you and the members of this Subcommittee so responsibly responded over a year ago.

I can assure you, Mr. Chairman, that my RA staff has and will continue to devote their untiring efforts to the successful execution of this monumental and unprecedented undertaking. I can only further stress that the Alternative Fuels Production Program, within which the interim DPA authorities now serve as the principal focus, continues to have the direct attention and support of Secretary Duncan to ensure that its execution proceeds on the quickest possible and responsible basis.

Chairman MOORHEAD. Thank you, Dr. Davis, and again, my congratulations to you and Dr. Bement, because I think without you we would not be moving as rapidly as we have.

And the subcommittee will hear now from Dr. Arden L. Bement, Deputy Under Secretary for Research and Advanced Technology for the Department of Defense.

Dr. Bement.

## STATEMENT OF ARDEN L. BEMENT, DEPUTY UNDER SECRETARY FOR RESEARCH AND ADVANCED TECHNOLOGY, DEPARTMENT OF DEFENSE, ACCOMPANIED BY GEORGE MARIENTHAL, DEPUTY ASSISTANT SECRETARY FOR DEFENSE FOR ENERGY, ENVIRONMENT, AND SAFETY; AND RICHARD E. DONNELLY, DEPUTY DIRECTOR FOR PRODUCTION RESOURCES

Dr. BEMENT. Thank you, Mr. Chairman and members of the subcommittee. I would request that my prepared statement be submitted for the record.

Chairman MOORHEAD. Without objection, your full statement will appear in the record.

Dr. BEMENT. It's my pleasure to report to you that since July 30 when I last appeared before you, we have made considerable progress in our efforts to implement the legislation which Congress so wisely provided.

I am accompanied today by George Marienthal, Deputy Assistant Secretary for Defense for Energy, Environment, and Safety; and Richard Donnelly, Deputy Director for Production Resources.

As I reported before, the Defense Department is prepared to execute the full authority of the Defense Production Act, as amended, to provide the fast start that you emphasized in your comments during our last testimony, and we are prepared to answer any questions that you or the subcommittee may have on that issue. In my brief remarks this morning, I want to give you an update of our actions, and specifically address the challenges you've given us.

Our efforts to that end are demonstrated by the resources which have been committed by the Department of Defense and the Department of Energy in accomplishing the necessary tasks, and our resolve to begin the process to obtain domestically secure and assured synthetic fuel for the reasons that you outlined in your opening statement.

In order to improve communication and accelerate the synthetic fuel fast start program, the Department of Defense has dedicated personnel to work with the Department of Energy. The background of these personnel is in many areas affecting synthetic fuel production, including procurement, technical, supply, legal, and financial matter. They provide a complete interface of the two departments in these essential areas.

In the implementation of the Energy Security Act, I believe that the schedule set forth by the Department of Energy reflects considerations for technology evaluations and procurement safeguards, and many of the recommendations resulting from the comments on the draft solicitation. This schedule, assuming a strong response from industry, should provide the Department of Defense with synthetic fuels beginning in the 1984 to 1985 time frame.

We are also moving as rapidly as possible to assist the Department of Energy to assist in implementing title I of the Energy Security Act. We believe we are truly moving in the fast start direction as intended under the act.

Dr. Davis has already outlined a number of details in the schedule of events that have already taken place concerning the Executive order, the draft solicitation, and the draft solicitation conference. I will only comment further on specific additional actions that the Department of Defense has taken in assisting the Department of Energy.

We have reviewed the draft solicitation and have suggested to the Department of Energy methods for simplifying the format, reducing redundancies in the request for technical and financial information, providing improved guidelines and procedures for the evaluation criteria, and improving the integration of the terms and conditions for purchasing fuel.

Although it could be argued that the financial data required is substantially in excess of that required for purchase agreements, we respect the intent of the Department of Energy to minimize the risks to the Government. We have reviewed the bid preparation, bid review, and contract negotiations schedules proposed by the Department of Energy from the standpoint of industry's capabilities to respond, requirements for safeguarding government interest, and the time required to carefully evaluate the technical and procurement uncertainties associated with such an aggressive undertaking.

We have also prepared a draft interagency agreement, and we have forwarded this agreement to the Department of Energy for comment. We expect that this agreement can be executed rapidly and that, while this agreement is between the Department of Defense and the Department of Energy, it can serve as a model agreement for the U.S. Synthetic Fuels Corporation to use in conducting its business with the Department of Defense and other Federal departments and agencies.

Mr. Chairman, while we have made significant progress, there remain matters which I would like to bring to your attention. The matter of long-term purchase agreements is of concern to the Department of Defense. We do greatly appreciate your comments that you have made to us concerning our ability to make long-term synfuel purchase contracts. We are very seriously reviewing those comments in connection with the existing relevant laws. Your continued support in assisting us in this legislative matter is appreciated.

We also realize the broad latitude provided by the energy legislation to eliminate procurement provisions. Recognizing this, we have defined the terms and conditions that would be included in the solicitation. Many terms and conditions which are necessary to do business in the supply contract have been included for information and to provide a basis for negotiation.

Mr. Chairman, I wish to assure you that the concerns you expressed in our previous meeting have been and are fully appreciated. They have been seriously considered by the Department of Defense and the Department of Energy. We are and intend to continue moving aggressively to implement this very important program for our Nation, and to assure a smooth transition to the longer term Synthetic Fuels Corporation program.

Thank you.

[Dr. Bement's prepared statement follows:]

STATEMENT ON

THE ROLE OF THE DEPARTMENT OF DEFENSE
IN THE MOBILITY FUELS
IMPLEMENTATION OF THE ENERGY
SECURITY ACT OF 1980
BY
DR. ARDEN L. BEMENT, JR
DEPUTY UNDER SECRETARY OF DEFENSE
FOR RESEARCH AND ADVANCED TECHNOLOGY

BEFORE THE
SUBCOMMITTEE ON ECONOMIC STABILIZATION
OF THE
COMMITTEE ON BANKING, FINANCE, AND URBAN AFFAIRS
OF THE
HOUSE OF REPRESENTATIVES
96TH CONGRESS, SECOND SESSION

1 OCTOBER 1980

Mr. Chairman and Members of the Committee:
It is my pleasure to report to you that, since 30 July when I last appeared before you, we have made considerable progress in our efforts to implement the legislation which Congress so wisely provided.

I am accompanied today by George Marienthal, Deputy Assistant Secretary of Defense for Energy, Environment, and Safety, and Richard Donnelly, Deputy Director for Production Resources.

In my brief remarks this morning I want to give you an update of our actions and specifically address the challenges you have given us. Our efforts to that end are demonstrated by the resources which have been committed by the Department of Defense and the Department of Energy in accomplishing the necessary tasks and our resolve to begin the process of obtaining domestically secure and assured synthetic fuels. We have had a continuing dialogue with those members of our business community who would engage in a viable synthetic fuels industry. We have also participated with DoE in the publication of a draft solicitation for comment by the private sector to assure that all facets of the business community are represented and that all views are considered in the development of the synthetic fuels program. I believe that the Department of Defense is fully prepared without delay to meet our responsibilities in the synthetic fuels area.

In order to improve communication and accelerate the synthetic fuels Fast-Start program, the Department of Defense has dedicated personnel to work with the Department of Energy. The background of these personnel is in many areas affecting synthetic fuels production development, including: procurement, technical, supply, legal, and financial. They provide a complete interface of the two Departments in these essential areas.

In the implementation of the Energy Security Act, I believe that the schedule set forth by the Department of Energy reflects consideration for technology evaluations and procurement safeguards and many of the industry recommendations resulting from the comments on the draft solicitation. This schedule, assuming a strong response from industry, should provide the Department of Defense with synthetic fuels beginning in the 1984-87 timeframe. We are also moving as rapidly as possible to assist the Department of Energy in implementing Title I of the Energy Security Act. We believe we are truly moving in the Fast-Start direction as intended under the Act.

Let me cite a few details in that schedule to indicate the speed with which we are moving in this new but extremely important program:

First, the Executive Order has been signed by the President.

Second, the draft solicitation for proposals for systematic fuels production prepared by the Department of Energy with full Department of Defense participation and consultation was reviewed by the industry in the co-hosted pre-solicitation conference on 8 September. We expect the final solicitation to be issued from the Department of Energy before the end of this week.

Third, we have reviewed the draft solicitation and have suggested to the Department of Energy methods for simplifying the format, reducing redundancies in the request for technical and financial information, providing improved guidance and procedures for evaluation criteria, and improving the integration of the terms and conditions for purchasing fuel. Although it could be argued that the financial data required is substantially in excess of that required for purchase agreements, we respect the intent of the Department of Energy to minimize the risk to the Government.

Fourth, we have reviewed the bid preparation, bid review, and contract negotiations schedule proposed by the Department of Energy from the standpoint of industry's capabilities to respond, requirements for safeguarding Government interests, and the time required to carefully evaluate the technical and procurement uncertainties associated with such an aggressive undertaking.

Fifth, we have prepared a draft Interagency Agreement, and we have forwarded it to the Department of Energy for comment. We expect that this Agreement can be executed rapidly. We expect that while this Agreement is between the Department of Defense and the Department of Energy, that it can serve as a model agreement for the United States Synthetic Fuels Corporation to use in conducting its business with the Department of Defense and other Federal departments and agencies.

Mr. Chairman, while we have made significant progress, there remain matters which I would like to bring to your attention.

The matter of long-term purchase agreements is of concern to DoD. We greatly appreciate the comments you have made to DoD concerning our ability to make long-term synfuel purchase contracts. We are very seriously reviewing those comments in connection with the existing relevant laws. Your continued support in assisting us in this legislative matter is appreciated.

We realize the broad latitude provided by the energy legislation to eliminate procurement provisions. Recognizing this, we have defined the terms and conditions that will be included in the solicitation. Many terms and conditions which are necessary to do business in a supply contract have been included for information and to provide a basis for negotiation.

Mr. Chairman, I wish to assure you that the concerns you expressed in our previous meeting have been and are fully appreciated. They have been seriously considered by the Department of Defense and the Department of Energy. We are and intend to continue moving aggressively to implement this very important program for our nation and to assure a smooth transition to the longer-term Synthetic Fuels Corporation program.

Chairman **Moorhead**. Thank you, Dr. Bement.

First, a few cleanup details. On this matter of the long-term purchase agreements, it seems to me that the Department of Defense, when dealing with synthetic fuels, particularly with a new industry, you have to contract for that which is in existence today, and contract long enough so that the corporations interested in bidding on these will be assured of a purchaser into the future.

I think we have stressed many times the essential need of the secure source of domestically produced fuel for our defense purposes is absolutely essential to our security; therefore, I think the law should be construed as carrying out that intent of the Congress.

One other thing, Dr. Bement. You referred to this interagency agreement which can be executed rapidly. It seems to me that a little over 1 year ago I heard of a draft interagency agreement which was floating around, and not signed.

Is this draft interagency agreement that same old one that we knew about over 1 year ago, or is this a new one?

Dr. **Bement**. Mr. Chairman, we have a number of memorandums of agreement and interagency agreements in force, many of which have been agreed to in just the past 6 months or so. This is a continuing process in order to facilitate freedom of action by people at the working level in carrying out the programs that have been assigned to them. This is in the spirit of the present interagency agreement. It deals with details on transferral of funds and implementing the procurement actions.

Chairman **Moorhead**. Sometimes I think I act as your wicked partner up here. Can we get a date on which you think this new interagency agreement can be executed rapidly?

Dr. **Bement**. The agreement has been staffed through the Department of Defense and it has just been recently transmitted to the Department of Energy for comment, so I would have to defer to Dr. Davis to address that.

Dr. **Davis**. We just got the DOD's suggestion for an interagency agreement yesterday. Having been on the other side of this problem in the past, it is my intent, and to the best of my ability to get that agreement signed out by DOE within a matter of 1 week to 2 weeks at the very longest.

Now, this is sort of a commitment in blind, because I have not yet seen it. Knowing the Department of Defense and its interests, I can't imagine that we can't come to terms very shortly.

Dr. **Bement**. I might add, Mr. Chairman, that since the interagency agreement had to reference specifically the delegated authorities in the Executive order, we had to have at least a signed draft of that order before we could officially transmit it. That is the reason why yesterday it was transmitted officially.

Chairman **Moorhead**. My impression, to be quite candid with you, is that you two—what I will call the top—are agreeing and working together in a magnificent fashion, for which I congratulate you.

But sometimes, when you get down to the small print, which you obviously delegate to people, that there are agreements over what I sometimes think as nitpicking.

So, one of our functions that I think this subcommittee can serve is in effect to get on you and through you to the people who are dealing with the small print, nitpicking, but again, I want to reiterate that what I am saying is not critical of the witnesses here today, because I think you have been doing as good a job of interagency cooperation as I have seen in 22 years in the Congress.

Dr. **Bement**. Dr. Davis and I agreed right from the onset that we would not be impeded in any way by these types of agreements, and I don't believe we are at the present time. So we will continue to move very expeditiously.

Chairman **Moorhead**. And we will continue to prod when it seems appropriate.

Dr. **Bement**. That is fair enough.

Chairman **Moorhead**. Let me just say before my 5 minutes are up that I am particularly delighted that you have adopted a fast start approach to the first solicitation response. And I think that the later proposal is really an open invitation for people to come in even if they don't get anything under the 90 days, they will have done the ground work for dealing with the Synthetic Fuels Corporation. So that—a real inducement to come in for the slow risers, as well as the fast start people.

In my view it is quite possible that major contracts and commitments can be made by the end of this calendar year so that these can start next year. Please tell me that I am correct in that fond hope of mine.

Dr. **Davis**. It is more than possible in the sense that, with the 30-day start—and if we give ourselves as short a time as possible—we would actually change the date that I originally gave to you for closing solicitations, from December 1 to about November 3. So we will now have proposals to look at by about November 3.

If we worked with the sense of urgency that we have up to date, we should be able to have conditional commitments this calendar year.

The reason that that is an open-ended statement is: First, we don't have any precedent for what we're doing in this area of financial assistance; second, we have no idea of what kinds of proposals are going to come in, in terms of their ability to respond to our information requirements; and third, we do have three departmental processes involved; namely, the Department of Energy, the Department of Defense, and the Department of the Treasury.

So, while I do have to give you that open-ended statement, it is more than possible, and it is highly probable, that we could have conditional commitments this calendar year.

Chairman **Moorhead**. But as you said in your testimony, we have put the ball in the court of private industry now.

Dr. **Davis**. Well, this has been my intent all along. It is industry that is going to have to carry this activity out; it is industry that is going to be running the synfuel industry; it is really they that can best decide what their financial assistance requirements are; and it is only that industry, or those companies, that are able to provide this approach to something that hasn't been done, that I think we have to depend upon them.

And this does put the onus on industry as to whether they can do a fast start to come in and help us in this activity.

Chairman **Moorhead**. Mr. McKinney?

Mr. **McKinney**. I was just going to suggest to Dr. Bement and Dr. Davis that they have a conference committee such as we just had over housing with the Senate. I get a little disturbed sometimes when we are in a hurry if everything is shifting back and forth through the U.S. mail.

Do you sit around the table and argue this out like we do, until 12 p.m., until you can solve it?

Dr. **Davis**. Yes, it has been impressive, given the 23-hour days that both DOE and DOD people have been putting on this particular activity since, really since about August 1, or the middle of July. And I don't think that I have ever seen such a dedicated group as that chaired by Larry Lukens and the people that Dr. Bement has supplied. They have been there until 3 a.m. and 5 a.m. in the morning, sometimes.

Mr. **McKinney**. So on this agreement that you just got yesterday, after a nice weekend of reading it, you could all sit down at a table and fight over the fine print?

Dr. **Davis**. I think I would say in a tribute to DOE and DOD that we have got agreement on the Executive order, from our points of view, faster than anyone expected. And it was due to this sort of continuous discussion between Dr. Bement and his people and myself and my people. The interagency agreement will get that same kind of attention; however, I think the remark that Dr. Bement made is appropriate. We have been working—we could not work any closer, even if we had an interagency agreement. So that it has not impeded any of our activity.

Mr. **McKinney**. I am delighted to hear that, because I think it is an interesting juxtaposition to see you sitting there, Dr. Davis, because you know the other jobs. I am glad we streamlined the process. I hate to think what it would have been like if we hadn't streamlined it, with all these draft proposals that form a 3-inch stack.

I was just thinking about your remark, the ball is now in industry's court. That is quite a ball.

Since the last time you were here I have been a little concerned about some of John Sawhill's remarks regarding the glut of the present supply of petroleum. Really, this fast track and this whole bill was designed to get things moving quickly so that in 1984–85 we will be moving along toward production.

Perhaps only the Lord could define what our position will be then, particularly with the world situation as it is today. But I think that we have to get going. You and I talked the last time, Dr. Davis, about striving for perfection, and striving a little bit too hard for perfection.

Are we going to be able to get away from that, so that we go just a little bit like we did on some of the space programs, to be sure that they work, or are we still trying to dot every single "i" and make sure that we make no mistakes—which we will make, no matter how careful we are?

Dr. **Davis**. From my point of view, we have, since the last hearing, and on this activity as a whole, been moving in what I would call the way one should move on an emergency or a critical national program. We have, and I communicated this to the Secretary and he shares this subcommittee's and my intent, to move as fast as possible and to tolerate mistakes that are correctable, as opposed to perfection.

When one is attempting to do something for the first time, that puts the financial liability of the Government at stake to the tune of $5 billion, and as a precedent to the tune of $88 billion, there is a tendency—and a very constructive tendency—to try to move carefully. So we have as a constructive constraint at any given time the intent of the appropriate people in the Government to make sure we make as few mistakes as possible.

Mr. **McKinney**. Well, I don't want the Space Shuttle to fall on tiles, either, but I do think that if we have some of the philosophy we had under John Kennedy—to get to the Moon, and show the Russians who controls space. We made some mistakes, but we got there. I am terribly afraid from some of the material I have been reading that we may be trying to build the perfect mousetrap, and none of us will ever see a commercial synfuels industry.

Dr. **Davis**. I would certainly hope that this subcommittee would keep voicing those concerns. The immediate term objective, as we are stating it, is to take advantage of the construction season that we now have. This is my analogy of getting a man on the Moon at a given time.

If we don't take advantage of the construction season we are in now, we have a continual reason for delay, because that is an extremely important goal. And the other goal that I think is extremely important for this activity is that these applications are for national defense needs, and that is unique within the Government.

Mr. **McKinney**. Mr. Lukens said something about a date certain for making awards at the presolicitation conference.

Have you got a date certain?

Dr. **Davis**. We don't have a date certain for getting awards out. We don't have control over that. For either of us, or for any of us, to provide that date would be beyond our control. We have a date for getting the solicitations out, and closing the solicitations. The first week in October and the first week in November are the dates. We have the resources of the Department standing by, to push for a conditional commitment as soon as possible, depending on what comes in.

It is going to be a case-by-case review of each of these proposals.

Mr. **McKinney**. Thank you, Mr. Chairman.

Chairman **Moorhead**. Mr. Green?

Mr. **Green**. Yes. I expressed in my opening statement that I was rather concerned about the statements that Secretary of the Treasury Miller made before the Oversight Subcommittee last Wednesday, and he seemed to indicate, when talking about the synthetic fuels program, that on things like gasohol, which he characterized as being close to the market, that that really wasn't the place for the synfuels program to operate; that the economics could take care of that itself.

And he went on to say that you have got pretty much an economic tradeoff on that program, and there are parts of the synfuels industry where that would be true, also, and that, if I may quote him:

> I would hope that the Synfuels Corporation, I believe properly guided by Congress, will try to take its resources and go to the paradigm of technology, because the Government should not support something that the private market system can do itself. I think we really ought to be using the Synfuels Corporation to take the risks to the horizons of technology that we need, if we think ahead to the nineties, and the next century.

That did concern me and I alerted the chairman of the subcommittee and the ranking member of that testimony. What is the role of the Treasury Secretary in this program, and was he speaking for the administration when he made those statements?

Dr. DAVIS. The role of the Treasury Secretary in this program is defined specifically in the Executive order, and I think I quoted that in my statement.

He does have specific responsibilities for setting interest rates and for the timing, as well as the terms and conditions of loan guarantees. This is absolutely a typical and a necessary function of the Secretary of the Treasury. He also has been helping us through his staff, or we have asked for assistance, in getting specific rulings on specific parts of the interim solicitations.

Mr. GREEN. Would he be able, for example, to cause you to turn down proposals in response to your solicitation for alcohol or gasohol products, on the ground that those are not things on which we should be spending Government money, because they are not the technology of the year 2000, but they are here now?

Dr. DAVIS. Let me say no and let me indicate what I mean by no. The Treasury staff would not be helping us in the technical analysis of the proposals, but in the financial aspects as he is required to by law in terms of the responsibility for the determination of the technical readiness of the particular technology being proposed or, what I should say is, the marketplace readiness of the particular technology being proposed, that is essentially a decision for the Department of Energy in conjunction with the Department of Defense.

Mr. GREEN. The fact that gasohol might be almost competitive with gasoline would not be a basis on which the Secretary of the Treasury could stop you from going forward?

Dr. DAVIS. No, it is not under the present planning and it is not under the present agreement and not under the Executive order. I might add that when he commented upon these kinds of synfuel technologies being in the feasibility stage, I would say that it could be extremely confusing to anyone, because we are on a parallel process. We have a number of activities underway simply because we can't afford the luxury of working in sequence. We have $500 million in process for feasibility studies, which is the beginning of commercial activity or marketplace activity, and for cooperative agreement, which is the intermediate stage, to get to the interest of this subcommittee, which is the actual construction and operation of commercial plants.

We have $500 million in synthetic fuels activity going on simultaneously with this $5 billion activity. Simultaneously, the Department of Energy has ongoing activities for feasibility studies, cooperative agreements, and loan guarantees in the area of alcohol fuels and urban waste and the like. So you see a picture of everything going on simultaneously, which I think is appropriate, because the technologies are at these various stages of development and the marketplace readiness varies. So you have everything going on simultaneously, and I believe that is consistent with the urgency of the program.

Mr. **Green**. Would your response as to the role of the Secretary of the Treasury change when your jurisdiction passes to that of the U.S. Synthetic Fuels Corporation? In other words, would the Secretary of the Treasury have any different role then from what he has now?

Dr. **Davis**. The role of the Secretary of the Treasury with respect to the Synthetic Fuels Corporation is defined in the law, and I would rather refer to that. He has specific responsibilities. They are set forth, and rather than try and recall them, I would like to, simply for the record, refer to them in the Energy Security Act.

Mr. **Green**. Thank you, Mr. Chairman.

Chairman **Moorhead**. Mr. Paul?

Mr. **Paul**. Yes. I have one brief question for Dr. Davis. Earlier in the discussion of synthetic fuels, comments were made about the difficulty or the possible difficulty of using synthetic fuels in military equipment. Has that been all resolved and are we confident that all the synthetic fuels can be used in military equipment? Or are there still some problems that have to be worked out?

Dr. **Davis**. Let me, if I may, turn that one over to Dr. Bement from the Department of Defense.

Dr. **Bement**. We have been undergoing equipment tests now for about 3 years. The short-term tests that we have conducted on shale-derived products gives us confidence that we can enter into this program using specifications, existing specifications, based upon petroleum fuels. What needs to be further established is whether or not the long-term durability of the equipment itself is in any way affected by some of the constituents in the synthetic fuels, and that testing will take a longer period of time.

If we find that there are particular difficulties that occur through this long-term testing program, we could either modify the fuel with additives or change the specifications. That is the way we would proceed. But, at the present time, we are willing to incorporate as much synthetic fuel as we can get into our testing programs. Apart from the engine tests that we are currently undergoing, we intend to go into fleet testing, starting in about 1½ to 2 years.

Mr. **Paul**. So even though you have done some testing and you would have to continue to test, there still may be some problems?

Dr. **Bement**. That is right. There are longer term effects that could occur over the lifetime of an engine that would take additional time to discover.

Mr. **Paul**. Thank you.

Chairman **Moorhead**. Dr. Davis, on page 7 of your statement, you refer to the requirement that a proposed synthetic fuel be highly advanced. Now, I think I know what you mean. But I think we ought to make it clear for the record, so that Mr. Green's question is clarified.

You are proceeding ahead on laboratory experiments for synthetic fuels for pilot plants, for feasibility studies. These are further out advanced. When you use the word advanced you mean they have proceeded through those stages and are really ready for commercial-sized production?

Dr. DAVIS. That is right. What we mean here is that they are ready to be marketed, and that they are at the stage of being able to be used in a marketable size to produce an energy product. That is what the interim DPA authorities are aimed at. The Department of Energy has a tremendous amount of research and development underway, has demonstration programs underway, and as you mentioned, we have feasibility studies and cooperative agreements underway.

But these technologies have to be, in essence, proven technologies ready for market in commercial-sized production before they would be eligible and meet our criteria in the solicitations.

Chairman MOORHEAD. I think our intention is now that the action will be in the private sector. But, Dr. Bement, I understand that you have some concerns about a problem of the skilled manpower and the number of engineers, for example, and the equipment components for these programs, such as air separation plants, compressors, thick wall vessels and piping, high-pressure, high-volume pumps, heat exchangers, valves, and so forth.

Would you care to discuss that? I am asking you, sir, because I understand you studied it. I am referring to a document out of the Department of Energy entitled "Achieving a Production Goal of One Million Barrels a Day of Coal Liquids by 1990." Can you give us the benefit of your comments on that, and any comments you might care to make about the utilization of the Defense Production Act legal authorities for getting priorities on some of these possibly scarce items?

Dr. BEMENT. Yes; the Department of Defense has considerable experience in this matter. And for details I will refer to Mr. Donnelly. We have to be realistic about the impact on construction leadtime that may be caused by critical items of equipment, and also the availability of critical engineering manpower in architectural engineering and construction firms.

Hopefully, many of the bidders that do bid on the solicitation will have considerable internal resources that they can devote to bring about a fast start program. To the extent that that may not be true, it may be necessary to invoke title I of the Defense Production Act to assign priorities and allocations, to bring more of these resources to bear on facilitating construction of the plants that we are talking about.

But I think, if I were to give emphasis to any of the leadtime problems that we may be encountering, it is probably more in the critical manpower area, because I am told by many of the industrial representatives that I have contact with that this tends to be a critical path item for them in starting the projects. This is an area of concern that we will be watching very closely.

Chairman MOORHEAD. And the skilled manpower is what, engineers? Or are we talking about pipefitters?

Dr. BEMENT. They are both: machinists, pipefitters, welders, construction engineers, design engineers. I think it covers both the professional and the nonprofessional ranks.

Chairman **Moorhead**. I think that is a very important statement, because I think that if private industry and the labor unions are aware that there is going to be this demand—and your statement clearly says that there will be, that we will need these institutions and corporate programs and labor apprentices and journeymen, and the training will be expedited if they know that there is going to be a job at the end of the line. I think that we can assure them that there will and assure them that there is a need. I think that message should go forth from this room in loud tones, so that action can be taken, so that we don't run into a bottleneck.

I am also interested that you do mention the allocations and priority provisions of the Defense Production Act, which may have to be required because of our international security.

Dr. **Bement**. If I may, Mr. Chairman, the Defense Department has devoted considerable time in studying industrial responsiveness. And I would like to ask Mr. Donnelly if he has any further comments to make on that issue.

Chairman **Moorhead**. Mr. Donnelly, would you identify yourself for the record.

Mr. **Donnelly**. Yes, sir, I am Richard Donnelly, Deputy Director for Production Resources. We just recently finished a Defense Science Board study of industrial responsiveness that looked at the entire industrial structure of the United States for materials and components and the availability of labor and things of that nature. It did verify, for example, in the labor area, that the United States over the next 4 or 5 years will experience a shortage of skilled machinists on the order of 200,000 due to retirements and changes of the work force.

We also in Defense are pressing for a more efficient use of the Defense Production Act on our contracts for parts and services. Not contracts for employment necessarily, but the employment follows where the priority contracts are carried out. So I guess all I want to do is just verify what Dr. Bement has said, that there are those problems out there, there are prudent ways of resolving them, and we have that under control.

Chairman **Moorhead**. Dr. Bement, the staff of the subcommittee has prepared a document for me which shows the amount of oil passing through the Strait of Hormuz, broken down by the countries. And it shows the total as of today, and it is, of course, fluctuating, of 16-million barrels per day, out of a total OPEC production of 27-million barrels per day. That is a large percentage.

I would like to ask you, or one of your associates from the Defense Department, about the vulnerability of the Strait of Hormuz. Now, I am not talking about today's crisis. So, we are not asking for any classified information. But from the charts here in the subcommittee room, it appears that while the strait is quite broad, the actual channel that is used is quite small.

Now, by the time we get synthetic fuels on stream—and we are not talking about today's crisis, except as it might illustrate what might happen, what could happen 5 years from now. I mean, that is a fairly narrow strait, something like 27 miles. But there is an even narrower channel, is there not?

Why do they have to use that narrow channel, which makes the strait even more vulnerable, it seems to me, than otherwise? What are the hydrographic or other conditions that we should be aware of? And again, I am not talking about today's crisis, but say 5 years from now where the topography and the hydrography will be about the same.

Dr. **Bement**. Mr. Chairman, that is, as you say, a very narrow strait and a great deal of water passes through it. There are very treacherous tides that are somewhat unpredictable. So, that the present delineated channel provides that area of the channel or the strait that provides the safest passage.

Apart from that, this is a very technical question, and if you would permit we could provide additional information for the record.

Chairman **Moorhead**. Well, one bit of information I suppose is available right now is, how wide is that channel, let us say at its narrowest point?

Dr. **Bement**. If I may, I will defer to Mr. Marienthal to address that question, since he has been very close to it.

Chairman **Moorhead**. Again, we are not asking for classified information. The width of the channel, I presume, unless there was dredging, would be the same width 5 years from now.

Mr. **Marienthal**. Yes, sir, I am George Marienthal, Deputy Assistant Secretary of Defense for Energy, Environment, and Safety. We appreciate your interest in the strait of Hormuz and its relationship to the flow of oil worldwide.

We in the Department of Defense have recognized the inherent potential difficulties that could arise under various scenarios. We would prefer to take for the record technical questions such as the width of the channel at the narrowest point, and the depth of the channel. We will provide you an in-depth response on that.

We found out this morning about your interest in that geographic area and, frankly, could not prepare in time to give you detailed information.

Chairman **Moorhead**. I would welcome that.

Dr. **Bement**. Let me ask a question, Mr. Chairman, just to clarify your interest. Are you talking about the width of the strait at its narrowest point or the width of the delineated channel for commercial passage?

Chairman **Moorhead**. Well, actually both. But if you could provide technical information that shows that you have to stay to the narrow channel, why then, that is the crucial measurement. If these mammoth ships can go outside the channel, why then, the width of the entire strait is more significant.

I understand that the tidal currents and the waters outside the channel are so difficult that it is really dangerous and very risky to go outside the channel.

Dr. **Bement**. That is generally correct. I think we could appropriately address that and give some assessment of risk in deviating from the currently marked channel in the strait.

[In response to the request of Chairman Moorhead, the following information was submitted for the record by Dr. Bement:]

### STRAIT OF HORMUZ

First, I would like to describe the geographic conditions of the area in question. The Strait of Hormuz is about 170 miles long and an average of 50 miles wide. At its narrowest point, the waterway is about 31 miles wide. Nearly everywhere the strait is more than 145 feet deep; off the Oman coast, depths range from about 245 to 735 feet.

There are several islands in the strait. The largest are close to the Iranian shore and of little concern to vessels transiting the main shipping channels. The remaining islands lie off the northern coast of Oman, and, while they are important in the demarcation of the shipping channels, they offer no impediment to vessels.

From July through September the currents in the Strait of Hormuz generally flow westerly into the Persian Gulf, under the influence of the summer monsoon. These currents average about 1 knot (1.15 miles per hour). The tidal currents are much stronger, however—about 4 knots off Oman, and 2 to 3 knots off the Iranian coast. These tidal currents sometimes pose problems to shipping in the strait.

The main shipping channels through the Strait of Hormuz are the shortest practicable route both inside and outside the archipelago of three small islands north of the rugged coast of northern Oman. Both the inbound (westbound) and outbound (eastbound) channels provide the most favorable clearance for deepdraft vessels. These channels vary in length from 15 to 22 miles and in width from 2 to 6 miles. The channels primarily provide for systematic ingress and egress through the strait, although other routes may be used if necessary.

As is clear from the above dimensions, the sinking of one or even several supertankers (the maximum draft of which is about 96 feet), would not block the Strait of Hormuz. However, the attendant oil slicks, especially ones on fire, might hamper shipping for a while. The delay would be temporary, since the current would probably carry the slicks out of the strait—into the Persian Gulf in the summertime and out to the Gulf of Oman or toward the Iranian coast the rest of the year.

Please note that this discussion does not address overt military acton such as mining or a naval blockdale; that is another matter entirely.

Chairman **Moorhead**. Clearly, the objective that I have in mind is to bring home to the American people, to American industry, the vulnerability of the United States if it does not have a secure domestically produced source of mobility fuel for Defense Department uses, just as a beginner.

And I don't have the technical capability. It has been a long time since I was a navigator in the Navy, and we never sailed into that part of the world when I was in the Navy. But I can see that when you think of 16 million barrels per day passing through a very narrow strait, and that being at least 50 percent or more of the OPEC production, that you have a cutoff point there that is extremely vulnerable. And it is that impression—not that I want your technical information—to convey.

So, if you could not only make it technical, but summarize it in some way so that it explains that without reference to what would happen tomorrow, next week, or next month.

Dr. **Bement**. Hopefully, it might suffice to state that not only the narrowness of the channel through which most of the oil must pass, but also the fragility of the exposed production facilities, which I think has been driven hard to the American public in just the last week, and how easily those facilities can be taken out of production has been a long-term concern of the Department of Defense and has been fully acknowledged in our planning studies now for some years.

It has been the basis from which the Department of Defense has been a very strong advocate and a very active participant in developing synthetic fuels programs, starting with our testing program 3 years ago. We continue to have that fuel supply concern.

Chairman **Moorhead**. That has been the concern not only of the Department of Defense, but of the ranking minority member of the subcommittee, who has spoken articulately on this subject in the past, and to whom I now yield.

**Mr. McKinney.** Thank you, Mr. Chairman. I really don't want to belabor the point, but most of us are pretty well aware, frighteningly so, of the supply problem if you start to sink supertankers in the Strait of Hormuz. That would finish the strait off. That is a pretty frightening thing.

It is not polite in these buildings to discuss other nations' political figures, but when you are dealing with hostile individuals and when you realize how little it takes to sink a supertanker, it is a frightening prospect. It has been leading me in the last year into questioning whether or not we shouldn't be going into a shipbuilding program of smaller tankers which would be able to avoid some of the problems that the gigantic tankers have, should sabotage or craziness or something block the strait. You will be hearing more from me on that, quietly, later.

I wanted to ask one thing in the opinion of both of you. I am a little concerned about the criteria during this selection period just being thrown out and having to start all over again when the Synthetic Fuels Corporation comes into existence. Is there any way that we can assume, assist, or command, that the Synthetic Fuels Corporation not try to reinvent the wheel when it comes along? Or do you think that your solicitation proposals will be an acceptable base for them to work from, or do you think they will try to start all over again?

**Dr. Davis.** I would say, Mr. McKinney, that they will not be starting all over again, that the preface to the Executive order cites the desire of the President that the Synthetic Fuels Corporation not ignore—in fact, requires that they not ignore this particular solicitation. That says that he is aware that when he declares the Synthetic Fuels Corporation fully operational, the interim authority lapses and that he would, in declaring the Corporation fully operational, do so at a time that would avoid any adverse impacts on the interim program underway; and that the projects that are going to be awarded under this interim program would be transferable to the Corporation or would remain with the Department of Energy.

And he also further requires—and I think it is in my statement as a quote from the Executive order—that to make this happen that we make our solicitation consistent with the authorities of the Synthetic Fuels Corporation, and we have done that.

**Mr. McKinney.** I just wanted to get that on the record, because I think it was pretty clearly the intent of the conferees in those long and arduous meetings that a dovetailing take place and we not go through a whole brandnew bureaucratic maze when we start out with the Synthetic Fuels Corporation.

**Dr. Davis.** I think it was essential to make that clear. We were able to, for the first time, at our presolicitation conference—based upon the stated intent of the White House at that time—to tell the interested parties that if they bid on this solicitation, it would be a part of the process of the Synthetic Fuels Corporation, and it would not be a lost effort. I thought that was essential, because the cost of bidding on this kind of proposal is so monumental to a given company or even to a consortia that it would not be fair to ask them to put that amount of resources into a proposal if it was just going to have to be redone entirely.

Mr. McKinney. Could you give me a ball park figure, say, as to what the cost of solicitation would be, say, fo~ the Great Plains project, or something like that, to a corporation. What are we talking about?

Dr. Davis. We have different estimates from different companies, and it depends upon the resources involved, say between coal or shale; and the estimated project cost. These estimates, however, for example, run from a minimum of $400,000 to $500,000 for middle-size plants, say in the low and medium Btu, up to $10 to $20 million to get the kind of information that they would need to provide the financial institutions and to us as to what would be called a technical design for a plant that was adequate enough to allow a financial institution to provide funds or to invest. So, the range is from $400,000 to $500,000 to $10 to $20 million.

Mr. McKinney. There has been a lot of concern, I think, earlier about industry shopping around to see where they are going to get the better deal among the DPA, the Nonnuclear Act, and the Synthetic Fuels Corporation. You are going to let your first solicitations out in these two programs essentially, DPA and nonnuclear.

Now, is this going to slow down DPA or not? Or is it going to increase the amount of shopping around?

Dr. Davis. First, from our intent, and second, from the discussions we have had with the industry and investment communities: That it is exactly what they would like, in the sense that it gives them the opportunity to tailor an incentive package for themselves. We have not precluded anyone from coming in under both simultaneously; this is rather common in the Government. Obviously, they could only receive an award under one solicitation, but it gives them the capability of shopping around and taking advantage of a number of different combinations of loans, purchase price supports, and being able to tailor their own package.

I am convinced that each of these financial packages is going to be customized for each company. And they are going to trade around among the incentives.

One thing we have said is that we won't award under a combination of the two acts, and that the award will be entirely under the DPA or entirely under the Nonnuclear Act.

Mr. McKinney. How true are the newspaper articles that we read that Great Plains is just going slurp up the whole nonnuclear pie?

Dr. Davis. That is not true. Let me say that right away. The portion of the Nonnuclear Act funds for which the Great Plains has expressed an interest is in the loan guarantee portion of $500 million out of the available $2 billion. Congress expressly asked us earlier in the year to give $22 million under a cooperative agreement to the Great Plains gasification plant. They then came in later and asked for a loan guarantee of $250,000, and we guaranteed that on a 3-to-1 leverage that amounted to some $75 million in round numbers.

They have now come in and asked for a loan guarantee from the Government, that would take roughly the entire $500 million that is available now under the loan guarantees in the Nonnuclear Act. However, we have not made any firm commitments to them. We have a conditional commitment to them for the $250 million loan guarantee. The process of negotiating with them on the loan guarantee for over $1 billion is underway currently.

Mr. McKinney. There is an article in the Washington Post on September 2, saying that DOE had cautioned prospective applicants for loan guarantees that $250 million commitment had been made to Great Plains project, which also would take almost all of the money, all the $1.5 billion in loan guarantee money.

Dr. Davis. That is right. And we did that in writing and specifically because I felt it was only fair to industry to tell them.

I might point out to you the activity underway in Congress now, in the continuing resolution activity under way at the moment, and for which I only report and make no comment——

Mr. McKinney. Make all you like. It was 2:20 this morning when I got out of the House Chamber.

Dr. Davis [continuing]. That continuing resolution has in it phraseology in both the House and the Senate version for purchase commitments and price guarantees that would allow up to $500 million of that remaining $1.5 billion to be used for loan guarantees. And the leverage would be 3 to 1, in accordance with the language that is now in the transitional statement. So we would have additional funding available for loan guarantees under the current—or, as of last night—the wording of the continuing resolution.

Mr. McKinney. That is pretty sharp staff work to find out what was in that thing. Thank you very much.

Chairman Moorhead. Dr. Davis, you have mentioned the interested financial and investing communities. What is their interest? And what is their role? And I ask that because we are a subcommittee of the Banking Committee.

Dr. Davis. Their interest can be expressed in several different ways. First of all, the only experience that they have had in this kind of activity with the Government is with the Department of Energy loan guarantee programs in the small hydro, geothermal, and coal programs. So, I think as a whole, the financial and investment community is somewhat unfamiliar with this kind of activity involving the Government.

Simultaneously, with saying that, their interest at the moment is in direct funding of companies that would come to them for support or in assisting in the formation of joint ventures, so that between the sharing of the risk among a number of companies, they could have a production company in hand that would be able to meet their requirements—their requirements and also the requirements of our solicitation.

Third, I think that they are really, for the first time since our solicitation came out, looking at—and they are being very helpful to us—the real commitments that are going to be required of the investment and financial community to get the synfuels industry on board.

When you look at the total amount of financing, capital financing available in that community, as opposed to the total amount that would be required for financing this kind of industry, as outlined both by the Energy Security Act and by the goals stated by the President, there is a disparity between the amount of capital that would normally be available and the amount which is needed. And I believe they are reassessing finally—and while late, but not too late—how they have to change their stance to help this country get a synfuels industry on line or a set of synfuels industries on line.

Chairman **Moorhead**. Thank you.

Earlier in the testimony, I referred to the Department of Energy publication about achieving the production goal of 1 million barrels per day and, also, to a staff paper on the amount of barrels of oil passing through the Strait of Hormuz. And without objection, I would like to have them made a part of the record at the appropriate place.

Mr. Evans.

Mr. **Evans**. I have no questions at this time.

Chairman **Moorhead**. I think this sets an alltime record for this subcommittee, finishing before 11:30. And we certainly appreciate all of the testimony of all who have participated.

I think if one thing comes out, it is that we share this goal of having contracts let by the end of this year so that the dirt can start to fly. And next year we will have a full construction season, and that is why I asked you about the Strait of Hormuz, just so you can have some ammunition on the record why this is urgent and why we have to act today, because the risk that we see today can be unfortunately—all too unfortunately replicated 3 or 5 years from now. And the sooner we get started, the better.

And on that happy note—and, again, with many congratulations to all of you for moving this so fast—I have not seen the Government move as fast and as cooperatively as I have seen evidenced here. Naturally, we intend to keep pushing you to go a little faster, but we want to congratulate on the speed that you have achieved. And I think it is really desperately important to this country. You have done a great job. Thank you.

And the subcommittee will now adjourn.

[Whereupon, at 11:25 a.m., the hearing was adjourned.]

# APPENDIX

## ADDITIONAL MATERIAL SUBMITTED FOR INCLUSION IN THE RECORD

THE SECRETARY OF ENERGY
WASHINGTON, D.C. 20585

October 20, 1980

Honorable William S. Moorhead
Chairman, Subcommittee on Economic Stabilization
Committee on Banking, Financing and Urban Affairs
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This is in response to your letter regarding the urgency and importance of implementing the Defense Production Act Alternative Fuels Program.

I appreciate your sending a copy of the transcript of your oversight hearing on July 30 at which Dr. Ruth M. Davis and Dr. Arden L. Bement testified. I wholeheartedly agree with your statement regarding the need to move forward without delay to develop economically sound commercial production of synthetic fuels. Both the Assistant Secretary for Resource Applications and I fully support the efforts to bring about an alternative fuels program capable of creating a new industry. This must be accomplished as quickly as possible to meet the intent of Congress and to improve our national security.

I read with interest your opening statement. I support orienting this program toward the needs of national defense and have spoken with the Department of Defense about it. We agree completely as to the proper method for carrying out the law's mandate.

Thank you for your vigilence in bringing this important legislation to the forefront. There is no time to lose in getting alternative fuels into production. You may be sure that this effort has my personal attention and my strong commitment to meet the rigorous time schedule before us.

Sincerely,

Charles W. Duncan, Jr.

DOE/FE/10490-01

# Achieving a Production Goal of 1 Million B/D of Coal Liquids by 1990

A Draft Containing:

Executive Summary, A Preliminary Study of Potential Impediments, an Assessment of Commercial Coal Liquefaction Process Equipment Performance and Supply, Feasibility Appraisal Production of Synthetic Fuels from Direct and Indirect Liquefaction Processes, and Synthetic Transportation Fuels from Coals.

March 1980

Prepared for:
U.S. Department of Energy
Assistant Secretary for Fossil Energy
Under Contract No. AC01-77ET10490

Note: Briefing to accompany TRW March 14, 1980 report.

# ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

## PURPOSE

THIS BRIEFING IDENTIFIES AREAS OF COMMONALITY AND ESTABLISHES A CONSENSUS OF CONCLUSIONS ON THE IMPEDIMENTS TO ACHIEVING THE PRODUCTION OF ONE MILLION B/D OF COAL LIQUIDS BY 1990 USING THE SOURCE DOCUMENTS BELOW

## SOURCE DATA

- BECHTEL NATIONAL, INC.:
  STUDY OF RESOURCE REQUIREMENTS AND MAJOR OBSTACLES TO THE PRODUCTION OF SEVERAL MILLION B/D OF SYNTHETIC COAL LIQUIDS
- MECHANICAL TECHNOLOGY, INC.
  STUDY TO ASSESS THE RISKS INVOLVED IN UTILIZING COMMERCIALLY AVAILABLE EQUIPMENT TO SUPPORT A COAL LIQUEFACTION COMMERCIALIZATION EFFORT
- UOP/SDC
  STUDY TO IDENTIFY FACTORS WHICH MIGHT LIMIT ACHIEVING A COAL LIQUIDS PRODUCTION GOAL OF ONE MILLION B/D BY 1990
- MOUND FACILITY - MONSANTO RESEARCH CORPORATION
  STUDY TO ASSESS THE PRODUCTION OF SYNTHETIC TRANSPORTATION FUELS FROM COAL

# ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

## KEY STUDY LIMITATIONS & ASSUMPTIONS

- IDENTIFY POTENTIAL IMPEDIMENTS - NOT SOLVE PROBLEMS
- LIMITED SCOPE - QUICK RESPONSE STUDIES
- SCENARIO'S ASSUMED A BUSINESS AS USUAL APPROACH I.E., INTERDEPENDENCE OF PROGRAMS NOT FACTORED IN
- REPRESENTATIVE LIQUEFACTION PROCESSES BASED ON NON-PROPRIETARY DATA STUDIES
- ESTIMATED SCHEDULE FOR PLANT CONSTRUCTION

| | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **No. of Plants Ordered** | 1 | 1 | 1 | 2 | 2 | 3 | - | - | - | - | - |
| **No. of Plants** | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 3 |
| **Annual Fuel Production MMB/D (Equivalent)** | 0 | 0 | 0 | 0 | 0 | .1 | .2 | .3 | .5 | .7 | 1.0 |

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### DEFINITIONS

- POTENTIAL IMPEDIMENT MEANS A FACTOR OR CONDITION WHICH MIGHT PRECLUDE THE ATTAINMENT OF THE 1990 COAL LIQUIDS PRODUCTION GOAL
- POTENTIAL IMPEDIMENT IN SPECIFIC LOCALES MEANS THAT THE IMPEDIMENT WOULD PRECLUDE ATTAINING THE 1990 COAL LIQUIDS ONLY IN CERTAIN AREAS OF THE COUNTRY
- NON-IMPEDIMENTS ARE THE FACTORS WHICH THE ANALYSES CONCLUDED WOULD NOT IMPEDE ATTAINING THE 1990 COAL LIQUIDS PRODUCTION GOAL

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### CONSENSUS CONCLUSIONS

- THE 1990 GOAL OF PRODUCING ONE MILLION B/D OF COAL LIQUIDS CAN BE ACHIEVED WITHOUT MAJOR DISLOCATION TO THE ECONOMY AS A WHOLE

- THERE ARE SIGNIFICANT POTENTIAL IMPEDIMENTS TO ACHIEVING THE 1990 GOAL WHICH CAN BE OVERCOME BY EARLY PLANNING AND ACTION. IMPEDIMENTS CATEGORIES ARE:
    - EQUIPMENT AVAILABILITY/SUPPLY
    - EQUIPMENT PERFORMANCE IN COAL LIQUEFACTION ENVIRONMENT
    - TECHNICAL AND CONSTRUCTION PERSONNEL AVAILABILITY
    - WATER SUPPLY
    - COAL SUPPLY
    - ENVIRONMENTAL/SITING
    - FINANCIAL/CAPITAL FORMATION
    - CRITICAL MATERIALS AVAILABILITY
    - TRANSPORTATION

- NONE OF THE LIQUEFACTION ROUTES STUDIED APPEAR TO BE SIGNIFICANTLY MORE FREE OF IMPEDIMENTS THAN THE OTHERS

- NONE OF THE IDENTIFIED IMPEDIMENTS APPEAR TO BE UNSOLVABLE FOR TECHNOLOGICAL REASONS

- THE COST OF A COAL LIQUEFACTION PLANT IS FAIRLY CONSTANT REGARDLESS OF THE TECHNOLOGY USED

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

## SUMMARY OF POTENTIAL IMPEDIMENTS AND NON-IMPEDIMENTS

### POTENTIAL IMPEDIMENTS

- EQUIPMENT AVAILABILITY/SUPPLY
- EQUIPMENT PERFORMANCE IN COAL LIQUEFACTION ENVIRONMENT
- TECHNICAL MANPOWER AVAILABILITY
- ENVIRONMENTAL/SITING
- AVAILABILITY OF CHROMIUM

### POTENTIAL IMPEDIMENTS IN SPECIFIC LOCALES

- WATER SUPPLY
- CONSTRUCTION LABOR AVAILABILITY
- TRANSPORTATION

### NON-IMPEDIMENTS

- COAL SUPPLY-RESERVES AND PRODUCTION CAPACITY
- FINANCIAL/CAPITAL FORMATION

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

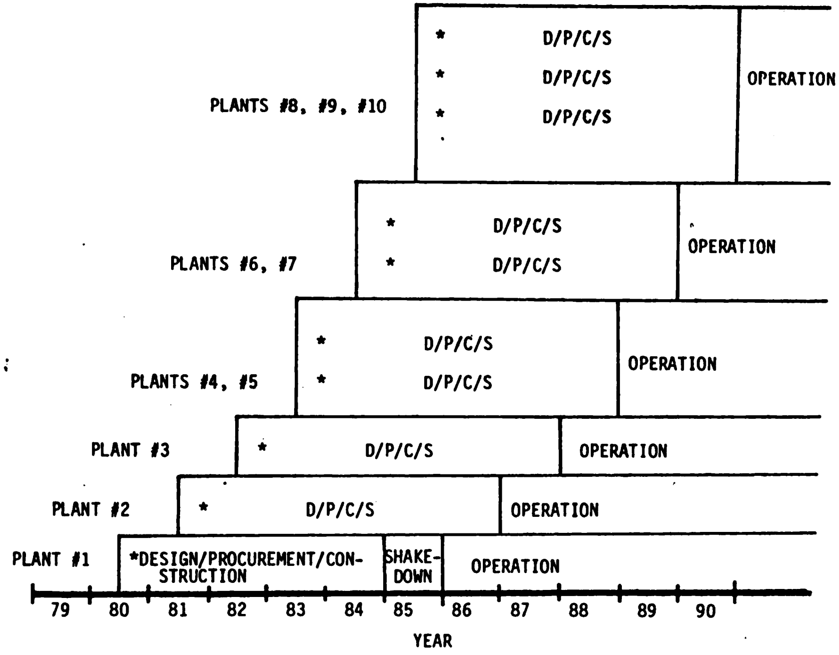
## EQUIPMENT AVAILABILITY/SUPPLY

- ITEMS & PEAK REQUIREMENTS AS % OF NATIONAL SUPPLY CAPACITY*
    - AIR SEPARATION PLANTS - 36% TO 122%
    - COMPRESSORS - 11% TO 22%
    - THICK WALL VESSELS & PIPING - 6% TO 400%
    - HIGH PRESSURES - HIGH VOLUME PUMPS - UP TO 50%
    - HEAT EXCHANGERS - UP TO 74%
    - VALVES - STAINLESS & ALLOY - UP TO 8%
    - DRAGLINES - UP TO 88%
- LEAD TIMES ARE SUBSTANTIAL
    - AIR SEPARATION PLANTS - 3 YEARS
    - LARGE PUMPS - 1 TO 1.5 YEARS
    - LARGE VESSELS - 1.5 YEARS
    - DRAGLINES - 3 YEARS
- SUGGESTED SOLUTION PATHS
    - PROVIDE INCENTIVES TO INCREASE U.S. CAPACITY
    - PURCHASE MORE FOREIGN COMPONENTS
    - PROGRAMMATIC DECISIONS & EARLY PLANNING

*USA 1979 NORMAL FABRICATION CAPACITY BASE PLUS 10% GROWTH PER YEAR.

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

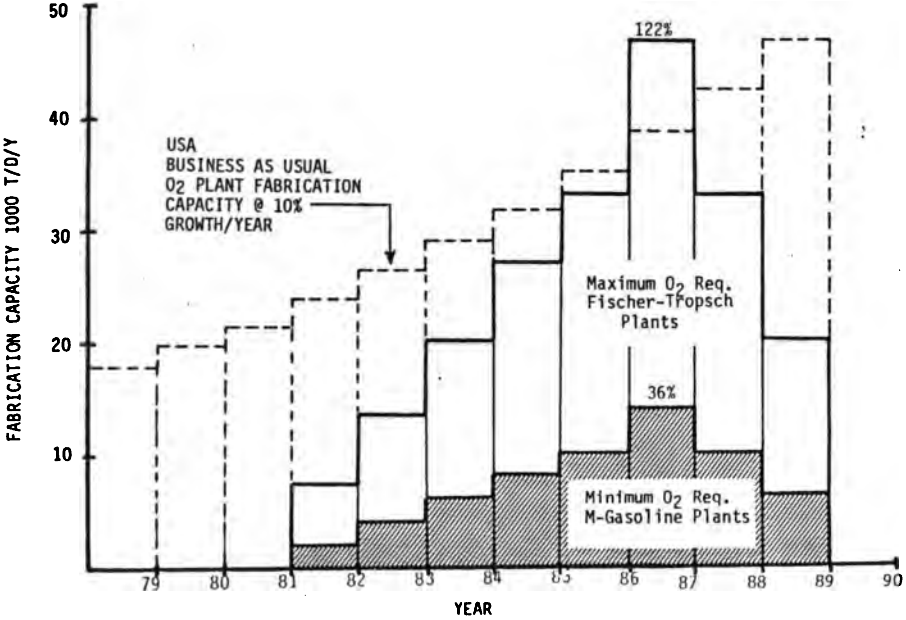
## EQUIPMENT AVAILABILITY/SUPPLY - AIR SEPARATION PLANTS



*Place order for Air Separation Plant
4 year lead time to start of Shakedown Opn.

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

## EQUIPMENT AVAILABILITY/SUPPLY - AIR SEPARATION PLANTS



## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### EQUIPMENT PERFORMANCE IN THE COAL LIQUEFACTION ENVIRONMENT

- HIGH RISK ITEMS - 4% OF PLANT OPERATING UNITS
  - OXYGEN COMPRESSORS, COAL SLURRY HEATERS, EXTRACTORS, GASIFIERS, EXTRACT HYDROTREATERS, AND GUARD CHAMBERS
- MODERATE RISK ITEMS - 15% OF PLANT OPERATING UNITS
  - SLURRY FEED PUMPS, EXTRACTOR CONTROL AND LETDOWN VALVES, EXTRACT HYDROTREATER SEPARATOR, FLASH STILL HEATERS, EXTRACTOR OVERHEAD WASTE HEAT BOILERS
- SUGGESTED SOLUTION PATHS
  - EXPAND DEVELOPMENT EFFORTS AND VERIFICATION TESTING FOR CRITICAL HIGH-WEAR COMPONENTS
  - GIVE MORE ATTENTION TO MATERIAL SPECIFICATIONS AND OVERALL SYSTEM DESIGN CONFIGURATIONS

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### TECHNICAL MANPOWER AVAILABILITY

- COAL LIQUIDS PROGRAM WILL REQUIRE UP TO 30% OF PROJECTED SUPPLY OF CHEMICAL ENGINEERS BY 1984
- SUGGESTED SOLUTION PATHS:
  - ENTICE ENGINEERS FROM OTHER OCCUPATIONS INTO PROCESS AND PROJECT WORK
  - EXPAND ROLE OF NON-DEGREED PERSONNEL
  - INSTALL MULTIPLE PLANTS AT SOME SITES
  - OPTIMAL USE OF DESIGN TEAMS
  - PROGRAM DECISIONS ON PROCESS ROUTE: INDIRECT LIQUEFACTION MANPOWER REQUIREMENTS ARE GREATER THAN DIRECT PROCESSES

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

## AVAILABILITY OF CRITICAL MATERIALS

### CHROMIUM IDENTIFIED AS POTENTIAL IMPEDIMENT

- COAL LIQUIDS PROGRAM PROJECTS A REQUIREMENT OF ABOUT 7% OF NATIONAL DEMAND
- U.S. IMPORTS OVER 92% OF CHROMIUM USED
- POLITICAL INSTABILITY OF PRODUCING COUNTRIES COULD DISRUPT THE U.S. SUPPLY

# ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

## ENVIRONMENTAL/SITING

- ENVIRONMENTAL/SITING ACCEPTABILITY UNCERTAIN
  - LACK OF EMISSIONS DATA
  - LACK OF SITING CRITERIA
  - EFFECTS OF YET-TO-BE DEFINED REGULATIONS
- POSSIBLE LONG TIME DELAYS IN PERMITTING
  - CRITICAL PATH FOR ON-LINE PLANT BY 1985
- POSSIBLE LIMITS ON FACILITY SIZE
- POSSIBLE UNWILLINGNESS OF LOCAL COMMUNITIES TO CHANGE
- SUGGESTED SOLUTIONS PATHS
  - ACCELERATE DEVELOPMENT OF IMPROVED CONTROL EQUIPMENT
  - REDUCED REPORTING REQUIREMENTS, REVIEW PERIODS FOR REPORTS
  - START PLANNING AS SOON AS POSSIBLE

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### WATER SUPPLY

- WATER SUPPLY IS ADEQUATE IN THE APPALACHIAN AND ILLINOIS BASIN REGIONS TO MEET THE REQUIREMENTS OF THE 1990 COAL LIQUIDS PRODUCTION GOAL
- AVAILABLE WATER SUPPLY WILL LIMIT THE NUMBER OF COAL LIQUEFACTION PLANTS WHICH CAN BE ECONOMICALLY OPERATED IN THE WESTERN U.S. REGIONS
- WESTERN WATER RIGHTS HAVE GENERALLY BEEN COMPLETELY ALLOCATED AND MUST BE NEGOTIATED WITH THE USER AND STATE

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### CONSTRUCTION LABOR AVAILABILITY

- COAL LIQUIDS PROGRAM WILL REQUIRE 30% TO 80% OF AVAILABLE PIPEFITTERS, PIPEFITTER-WELDERS, BOILERMAKERS, AND ELECTRICIAN IN CERTAIN REGIONS OF THE U.S.
    - NORTHERN GREAT PLAINS AREA MOST IMPACTED
- COST OF CONSTRUCTION LABOR WILL BE HIGHER FOR LARGE-SCALE COAL LIQUIDS CONSTRUCTION PROJECTS THAN FOR CONVENTIONAL PROJECTS
    - MOVE LARGE WORK FORCE INTO RELATIVELY REMOTE SITES
    - EXTENDED WORK WEEKS
    - OVERTIME PREMIUMS
- SUGGESTED SOLUTION PATHS
    - EXPAND USE OF NON-JOURNEYMEN
    - EXPAND APPRENTICESHIP AND TRAINING PROGRAMS
    - INCREASED RECRUITMENT - MINORITY AND FEMALE
    - HIGHER WAGE RATES AND REDUCED INSTITUTIONAL BARRIERS

## ACHIEVING ONE MILLION B/D COAL LIQUIDS PRODUCTION BY 1990

### TRANSPORTATION

- LACK OF WATER TRANSPORTATION IN WESTERN REGIONS LIMITS SIZE OF SHOP FABRICATED COMPONENTS NEGATING ECONOMICS OF SCALE:
  - DISTILLATION TOWERS
  - HEAT EXCHANGERS
  - REACTORS
  - PRESSURE VESSELS
- TRANSPORTATION ECONOMICS FAVOR MINE-MOUTH LOCATION FOR COAL LIQUEFACTION PLANTS

## RECOMMENDATION FOR FUTURE ACTIVITIES

- ANALYZE IN GREATER DETAIL THE IMPEDIMENTS TO COAL LIQUIDS PRODUCTION DISCUSSED IN THE REPORTS & EXPAND THE SCOPE TO INCLUDE EXTENT OF POSSIBLE MITIGATING ACTIONS.
- PERFORM A SIMILAR DETAILED ANALYSIS FOR COAL GASIFICATION
- COMBINE THE ABOVE IN-DEPTH ANALYSES TO DETERMINE THE EXTENT AND INTERACTIONS OF THE PROBLEM AREAS

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